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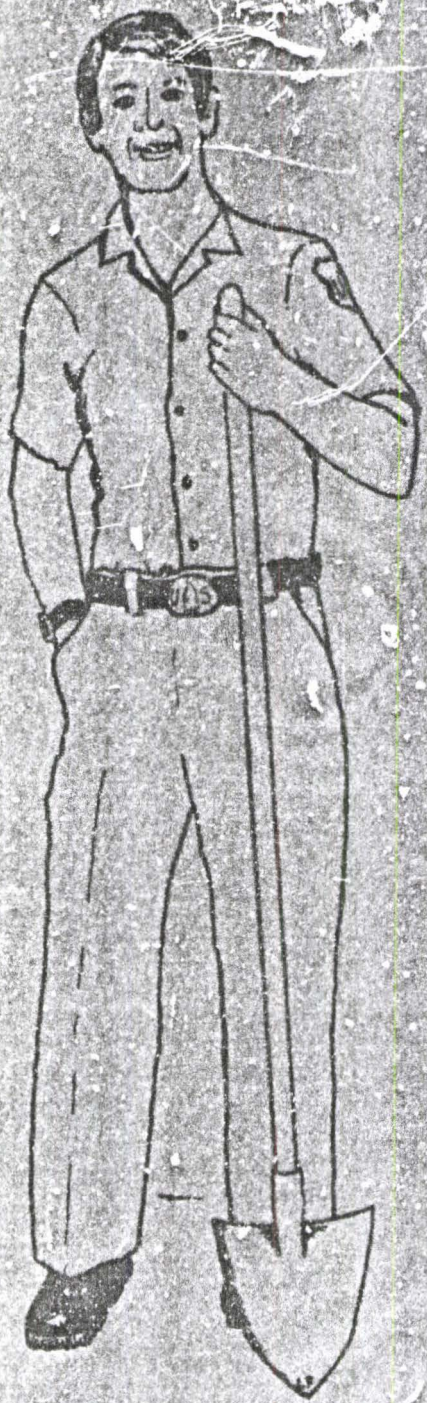
# DEVELOPED SITE MAINTENANCE STANDARDS SAN BERNARDINO NATIONAL FOREST 1981



BY DAVID M. FLOHR

FLOHR

# DEVELOPED SITE
# MAINTENANCE STANDARDS
# SAN BERNARDINO NATIONAL FOREST
# 1981

PREPARED FOR
PROFESSIONAL DEVELOPMENT PROGRAM
OUTDOOR RECREATION MANAGEMENT
CLEMSON UNIVERSITY
CLEMSON, SOUTH CAROLINA
SEPTEMBER 15 TO OCTOBER 3, 1980

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U.S. FOREST SERVICE

## ABSTRACT

This paper contains a photographic comparison of maintenance classes I to IV as defined by the U.S. Forest Service with a final objective of setting a maintenance standard for the San Bernardino National Forest. It will provide a guideline for maintenance personnel and program planners to level maintenance needs with available funding.

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## I. INTRODUCTION

The maintenance of camp and picnic area facilities on the San Bernardino National Forest relies mainly on the experience and ingenuity of maintenance personnel. The Forest is putting together operation and maintenance plans which will help pull needed information into one place, but there is still a gap in understanding differences between levels of maintenance. This paper is an attempt to pull together, photographically, the basic differences between the Forest Service Maintenance Classes I through IV. This should help everyone involved in developed site maintenance to see eye to eye on the condition of each item. Condition Classes V-VIII are not discussed, since they primarily deal with the rehabilitation and new construction of facilities. The final product of this report is to establish a camp and picnic area maintenance standard for the San Bernardino National Forest. This is expressed in Section II of the report. This standard will be used by all Districts on the Forest.

In addition to the on-the-ground application, this manual will be helpful to the program planner to level maintenance needs with available dollars. This report is not intended to be a complete inventory of all facilities on the San Bernardino, but a representation of Condition Classes for the major facility types.

## II. GOAL FOR THE SAN BERNARDINO NATIONAL FOREST

The goal for the San Bernardino National Forest will be to maintain all recreation facilities to the established standards for Condition Classes I and II. The Condition Class II items will be phased out as soon as possible. This goal will be scheduled to fit with budgetary constraints.

## III. LITERATURE REVIEW

Very little information has been published by the Forest Service to explain the differences between the various maintenance classes. The following were used to aid this project.

1. Forest Service Manual - 2330
2. Forest Service Recreation Information (RIM) Handbook - 122.31
3. Cleaning Recreation Sites - ED&T 9009, Forest Service, U.S. Department of Agriculture, Equipment Development Center, San Dimas, California 91773

## IV. ANALYSIS

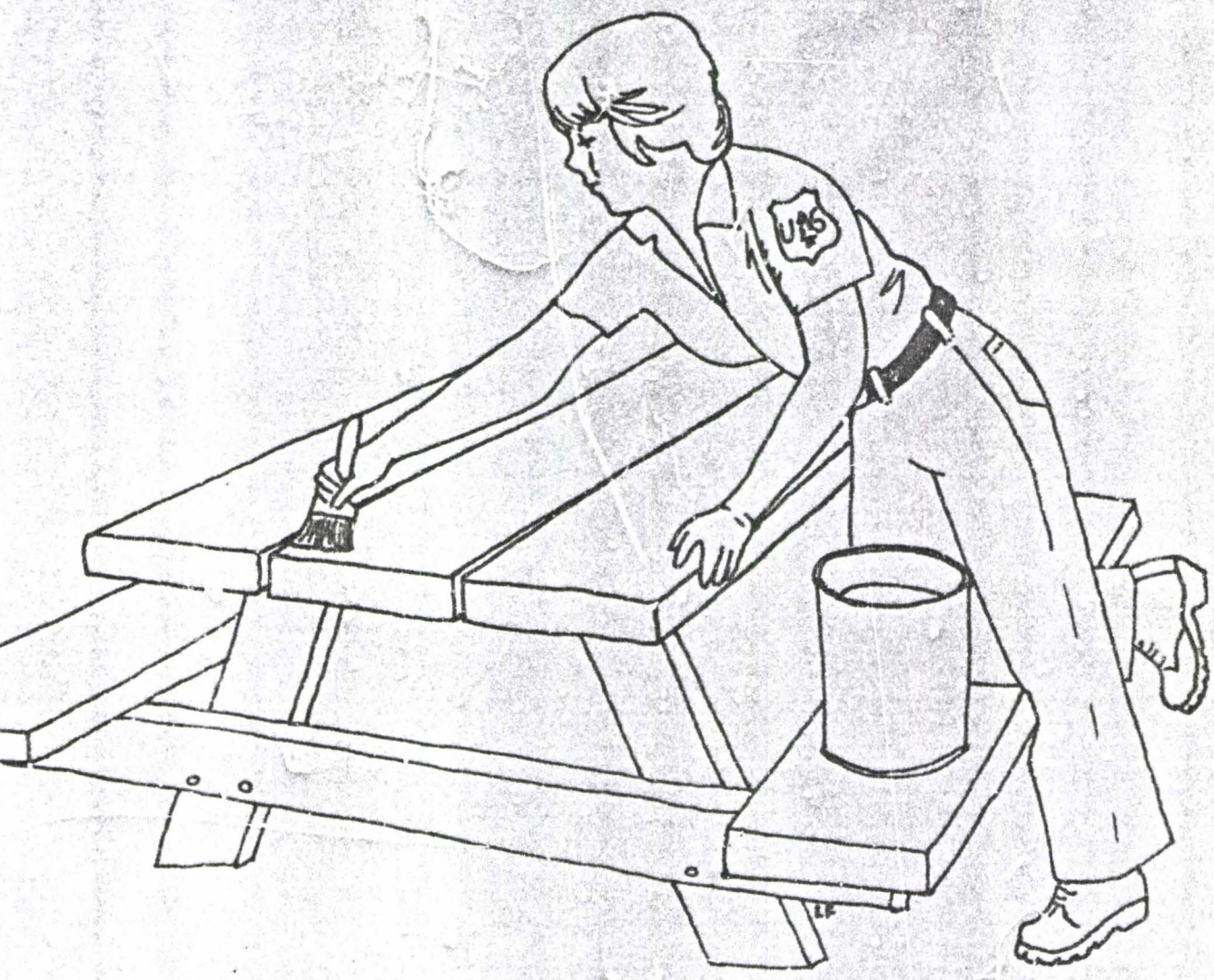
The following groupings are major categories of facilities on the San Bernardino National Forest. Each category is broken down into Condition Classes I to IV as taken from the Forest Service RIM Handbook. Definitions (RIM Handbook 122.31).

Condition Class I - Satisfactory - Facility is safe and sanitary. Annual maintenance will not exceed 10 percent of replacement cost.

Condition Class II - Substandard - Facility is safe and sanitary, although substandard as to type, construction standard, or not in keeping with planned experience level for the site. Annual maintenance will not exceed 10 percent of current replacement cost of standard type of facility. May be scheduled for eventual elimination or replacement, but will serve intended purpose for next 3-5 years.

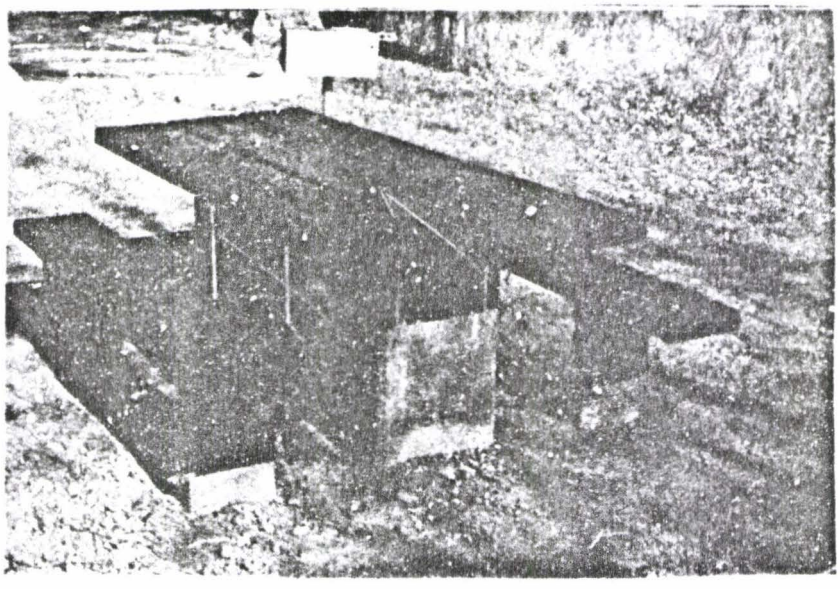
Condition Class III - Heavy Maintenance - Facility unsafe or otherwise unsatisfactory. May be put back in good condition at a cost not to exceed 50 percent of current replacement of like kind of facility.

Condition Class IV - Replacement - Facility unsafe or otherwise unsatisfactory. To put back in good condition would cost more than 50 percent of replacement cost. Replace with like kind and standard facility. Cost includes both removal of old facility and replacement.

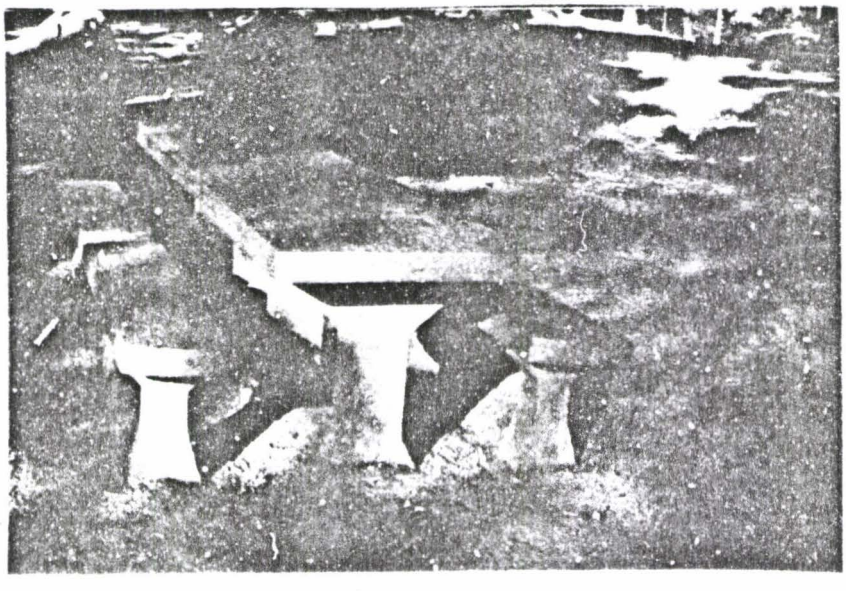


TABLES

TABLES
CONDITION CLASS I



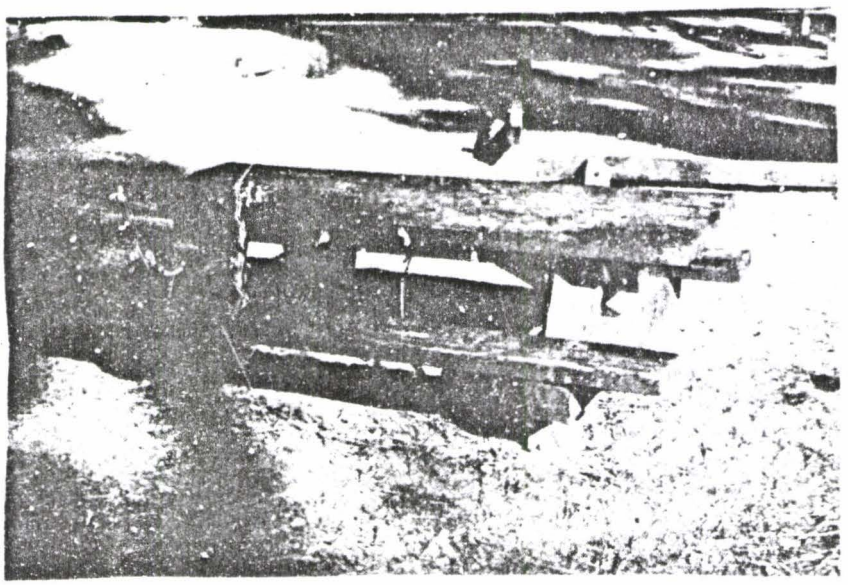
Condition - Lumber in good condition, table stained, legs made of stained concrete, all bolts tight, secured to ground.



Condition - Top made of tan fiberglass, legs made of natural colored concrete, all items in good condition, secured to ground.

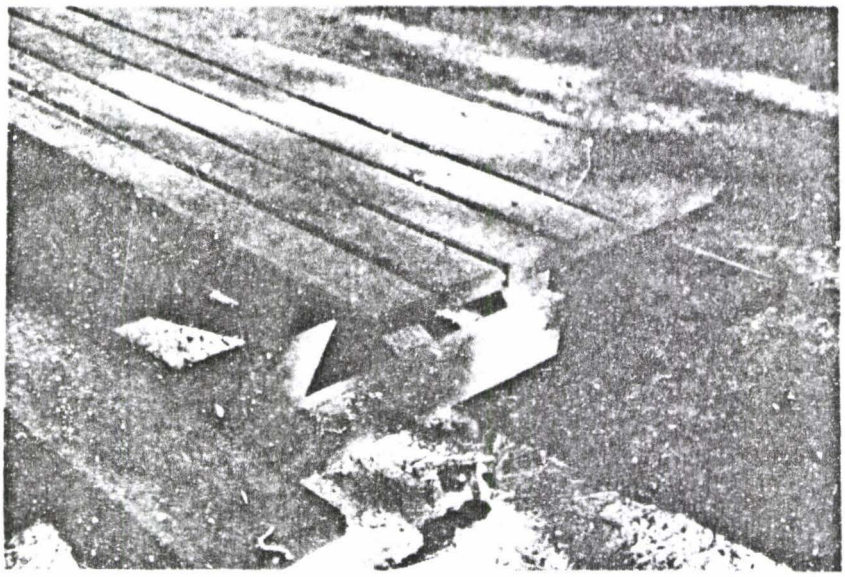
## TABLES

### CONDITION CLASS I

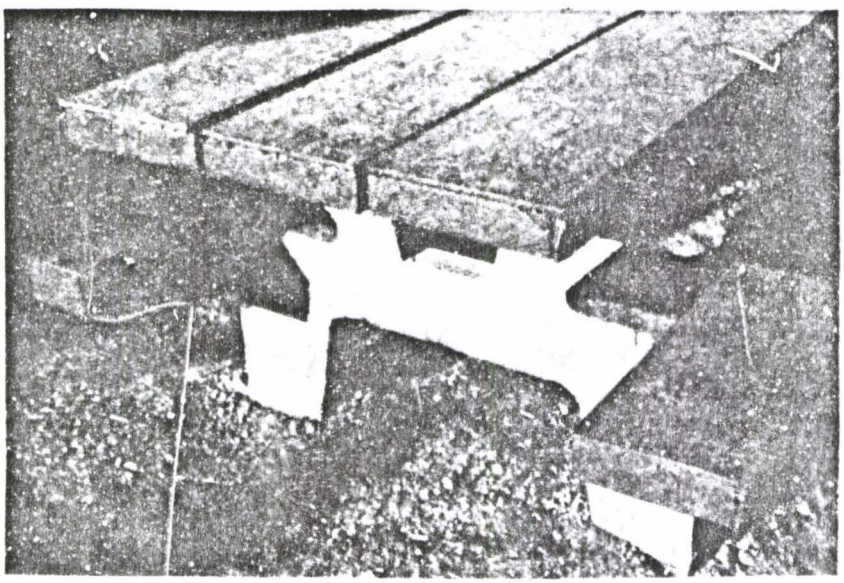


Condition - Table needs light planing, staining and deadman secured into the ground. Bolts are all tight and lumber in good condition.

TABLES
CONDITION CLASS II



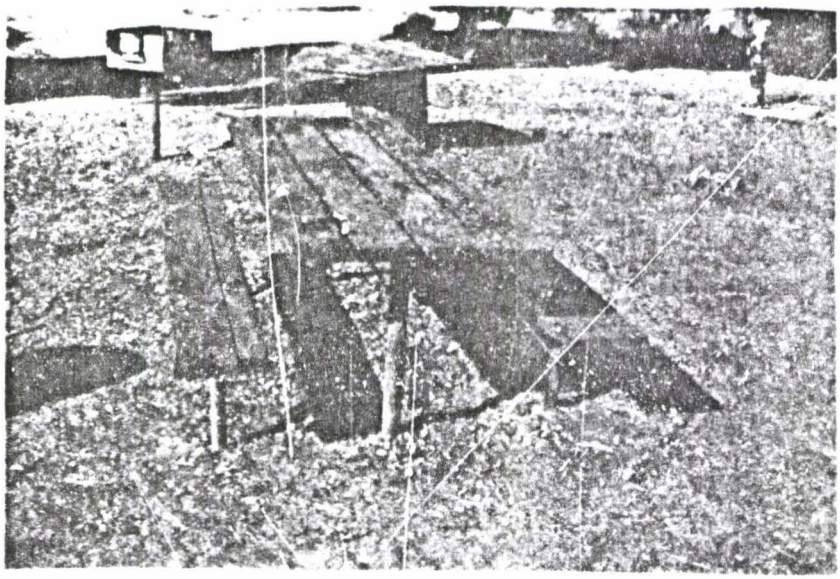
Condition - Standard light wood table with wrong replacement lumber on top. Two boards on top must be replaced and entire table stained to bring it to Condition Class I.



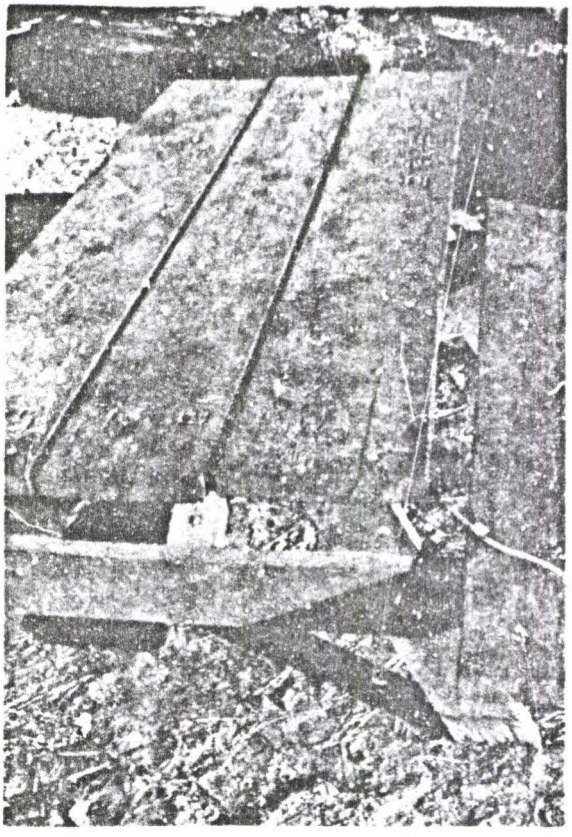
Condition - Concrete table with wood top. Quarter-inch plywood was used to cover carvings. Boards must be planed and stained to make this table Condition Class I.

TABLES

CONDITION CLASS II



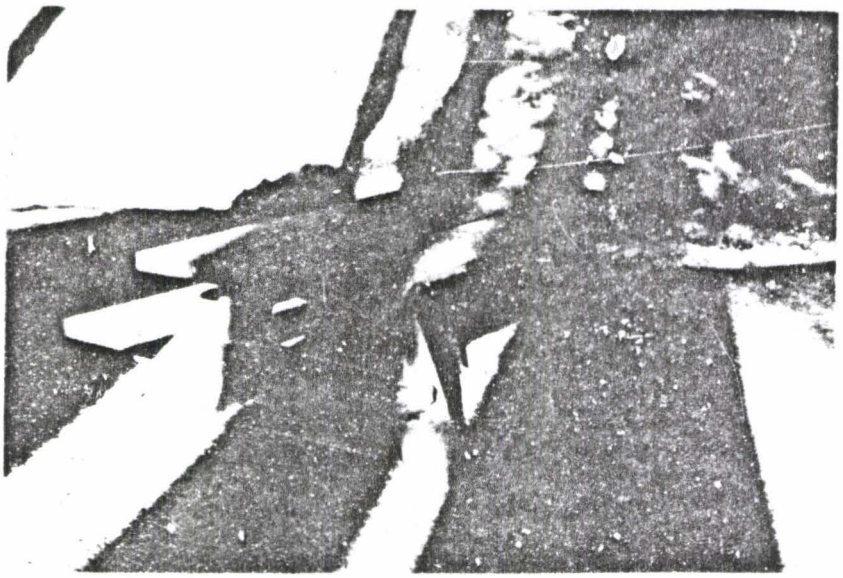
Condition - Wood table constructed out of pipe. Table must be replaced with standard design.



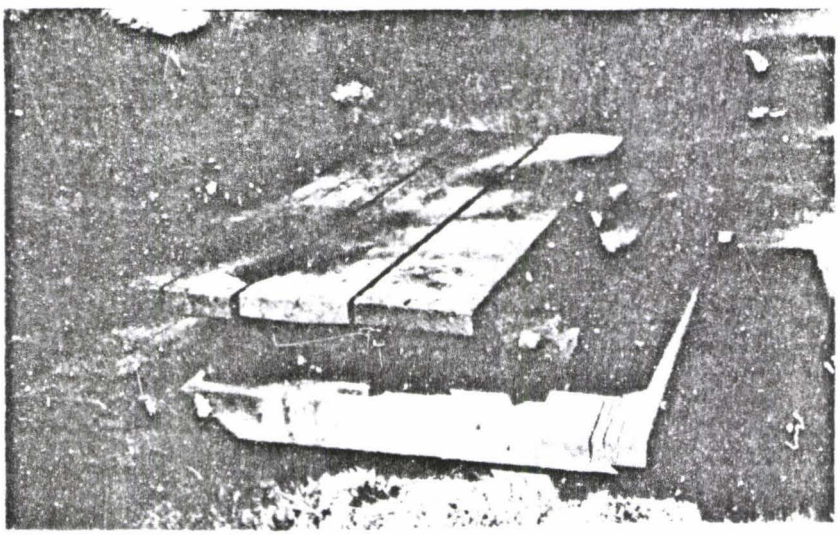
Condition - Major planing required on two boards on top left. Top right board needs replacing due to deep burn and carvings. Following replacement, all bolts need tightening and table stained. All other lumber in sound condition.

TABLES

CONDITION CLASS III

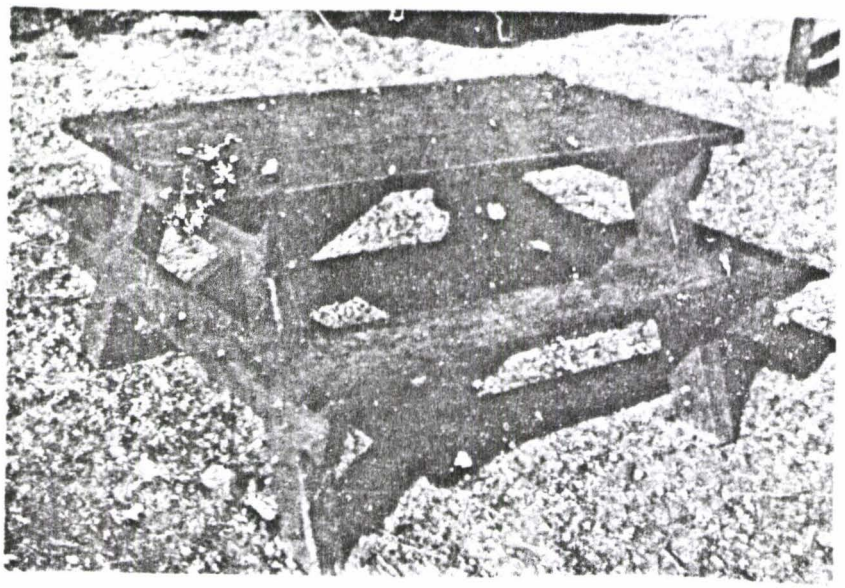


Condition - One board on top, seat support and seat must be replaced; bolts tightened and table stained. All other lumber in sound condition.

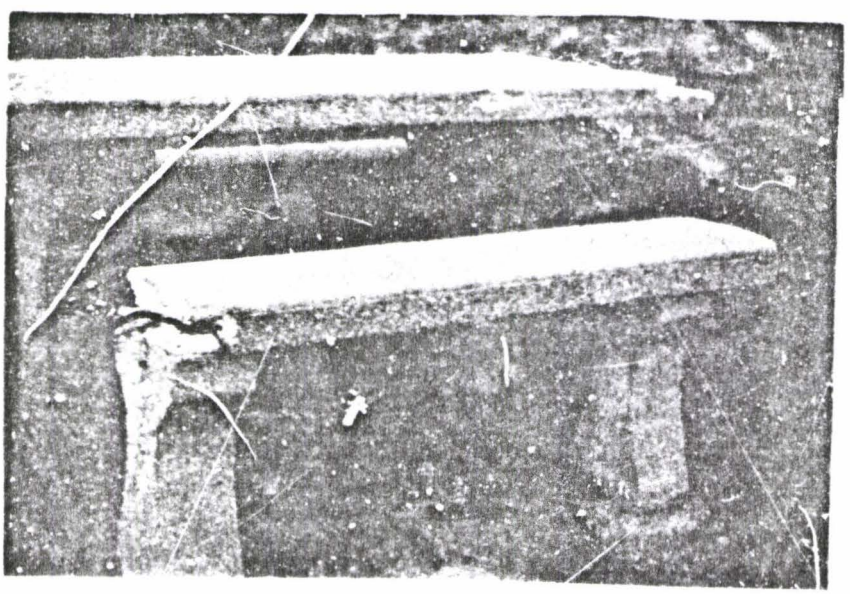


Condition - Two left hand boards on top must be replaced due to burn. Remainder of lumber in good condition. Seats should be turned to eliminate weather checks. Entire table must be stained.

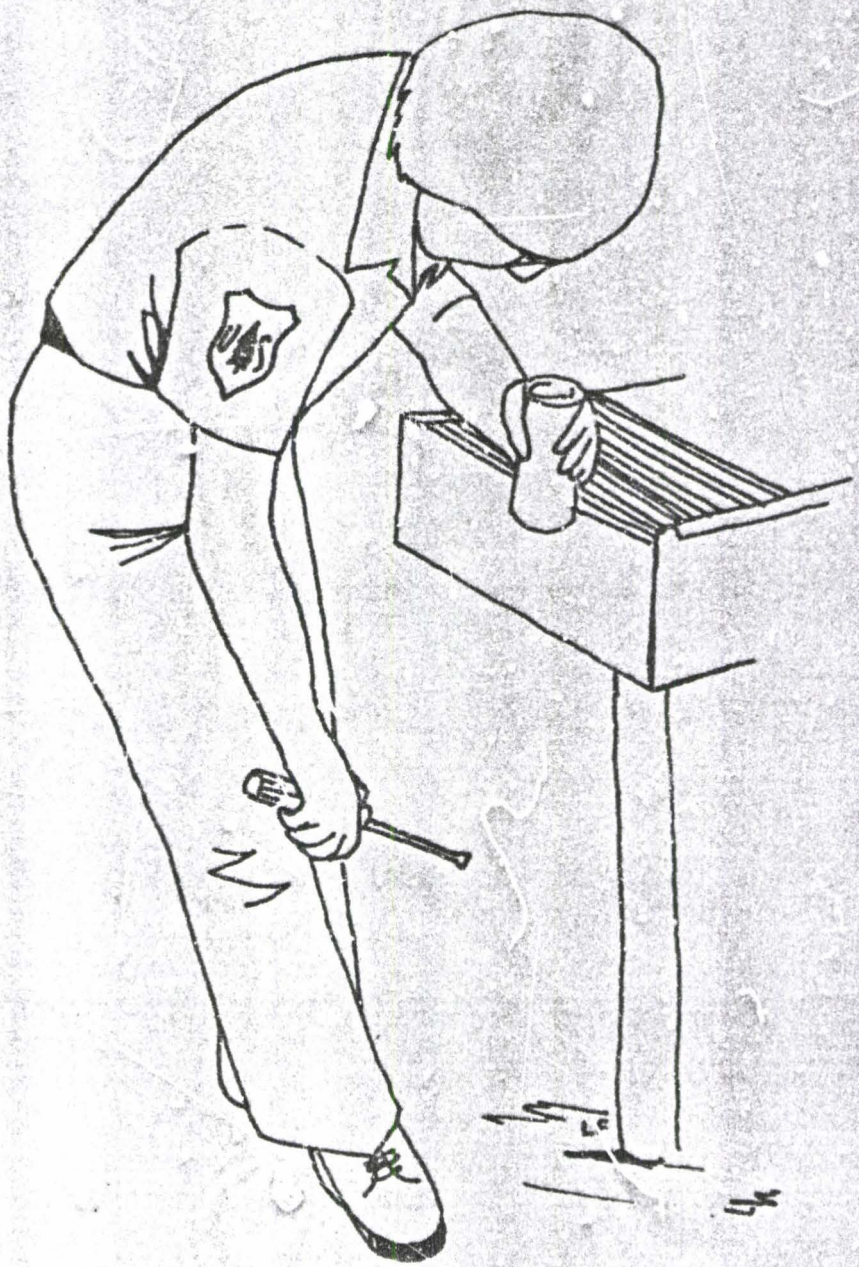
TABLES
CONDITION CLASS IV



Condition - Tops and seats sawn short, boards rotten, nails exposed, legs showing signs of early rot. Table beyond repair and should be replaced with a like kind of table.

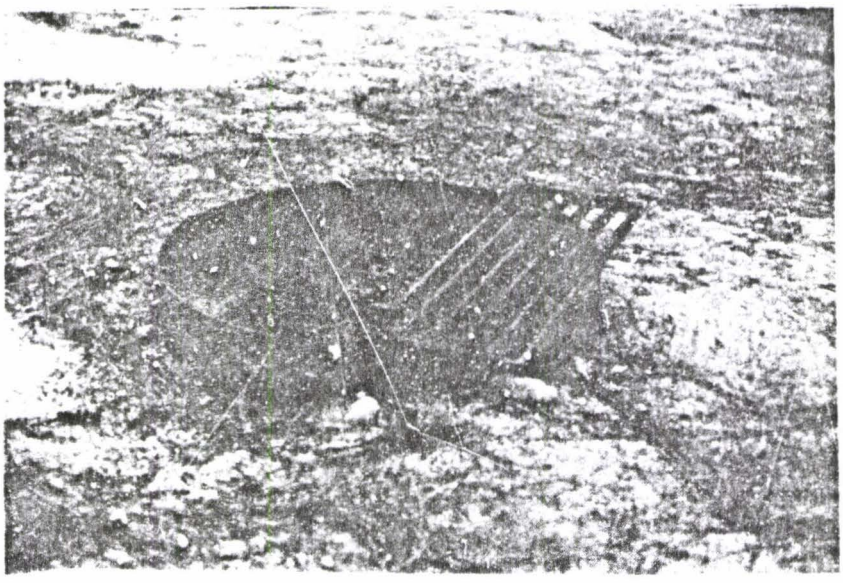


Condition - Concrete broken on both top and seat. This kind of table cannot be successfully repaired. It needs replacing.

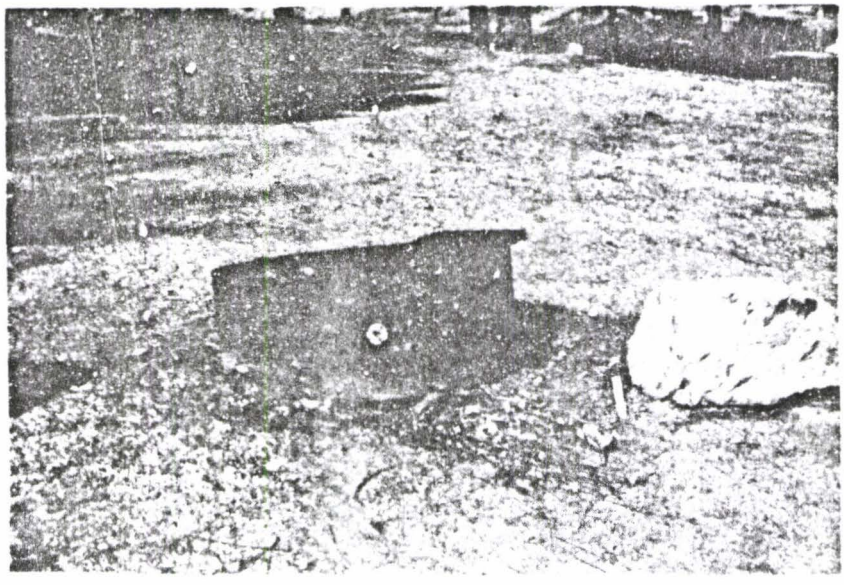


STOVES

STOVES
CONDITION CLASS I

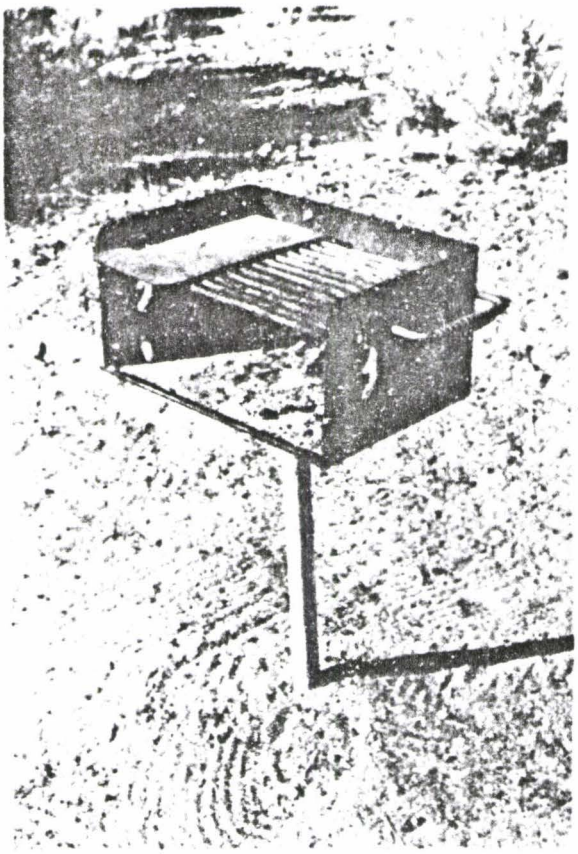


Condition - Good condition, placed in ground at good height, ground level and free of debris.

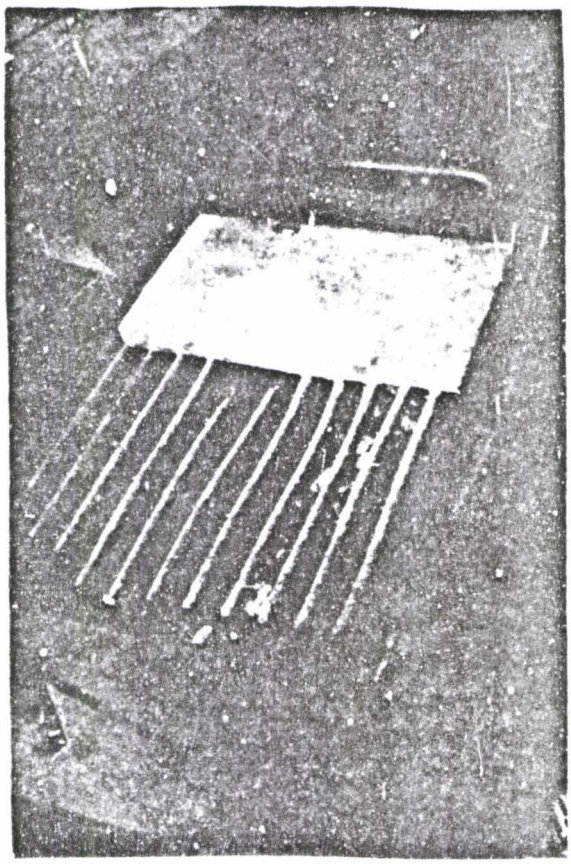


Condition - Stove in good condition, but pulled out of ground. It needs to be replaced into ground and leveled.

STOVES
CONDITION CLASS I



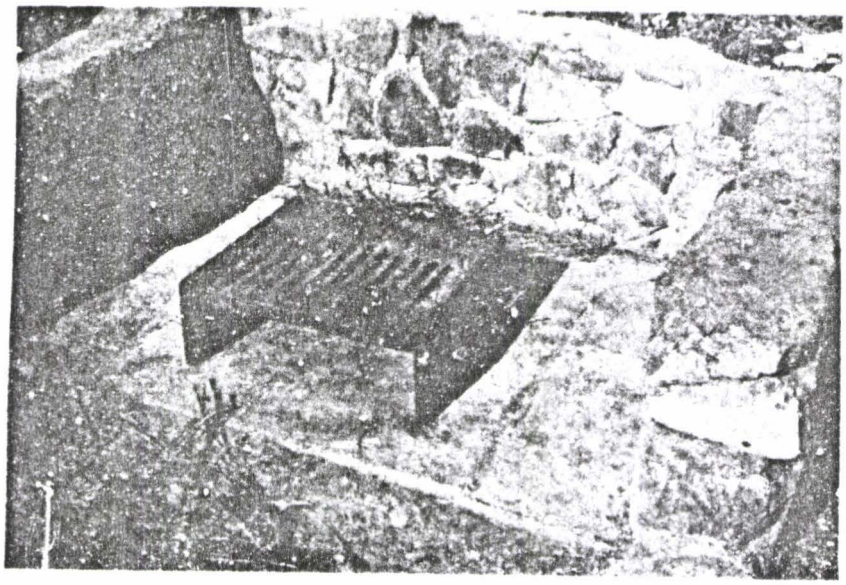
Condition - Stove in good condition. Suggest painting with flat black engine paint to blend with environment.



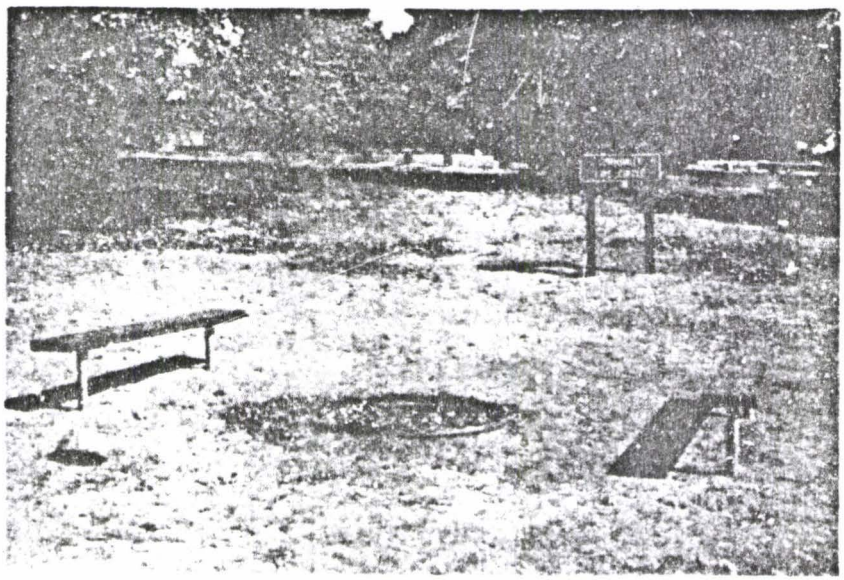
Condition - Stove in good condition except for broken weld on top. Minor repair required.

STOVES

CONDITION CLASS I

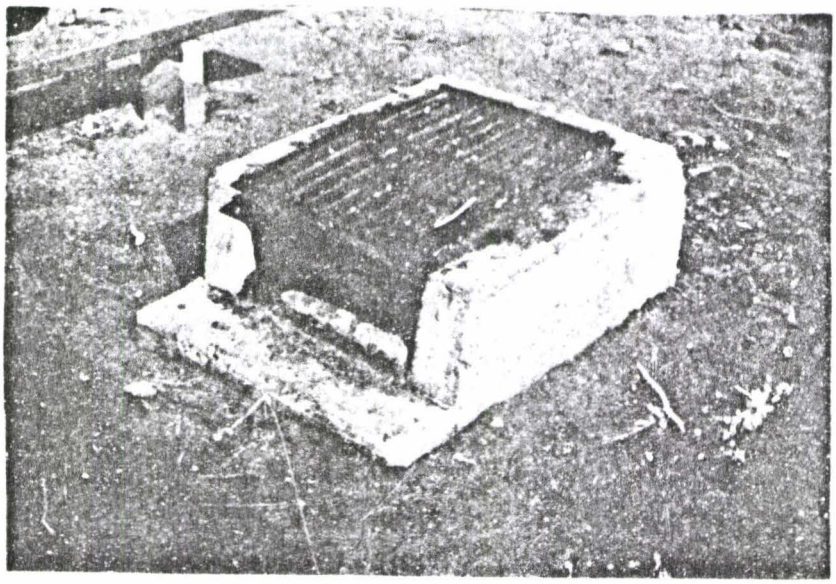


Condition - Stove generally in good condition with slight heat warp on top. No repairs required.

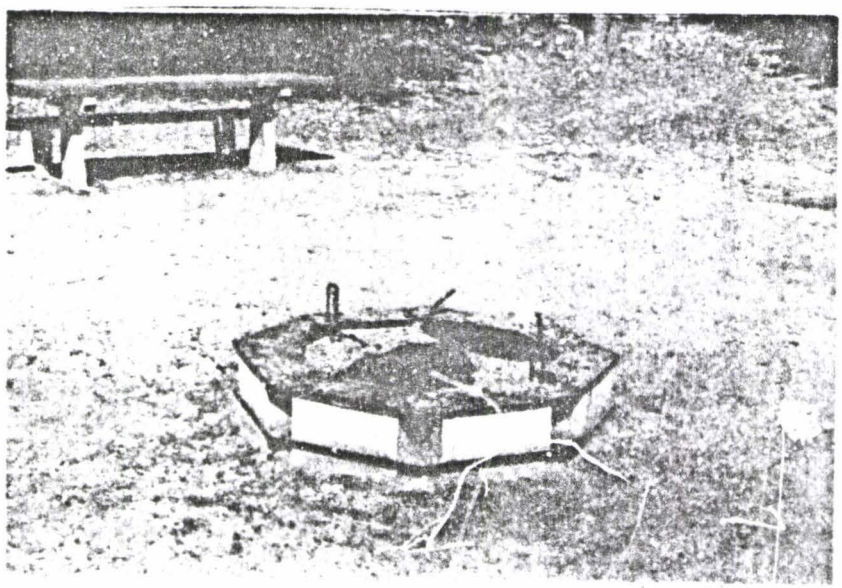


Condition - Fire ring in good condition except for sharp edge on ring. The edge can be hammered round.

STOVES
CONDITION CLASS II

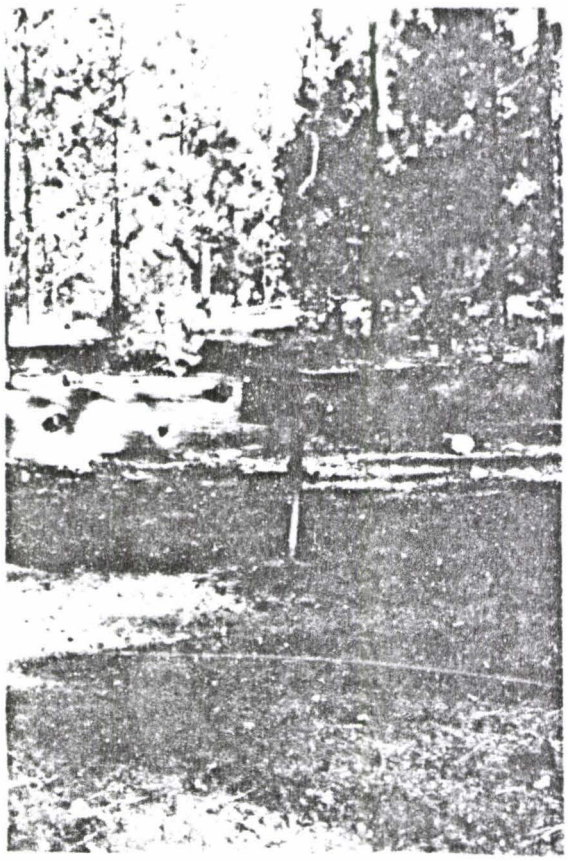


Condition - Old Klamath stove base utilized with Belson fire pit. Stove is very popular, but substandard as to design. It should be phased out and replaced with an approved type.



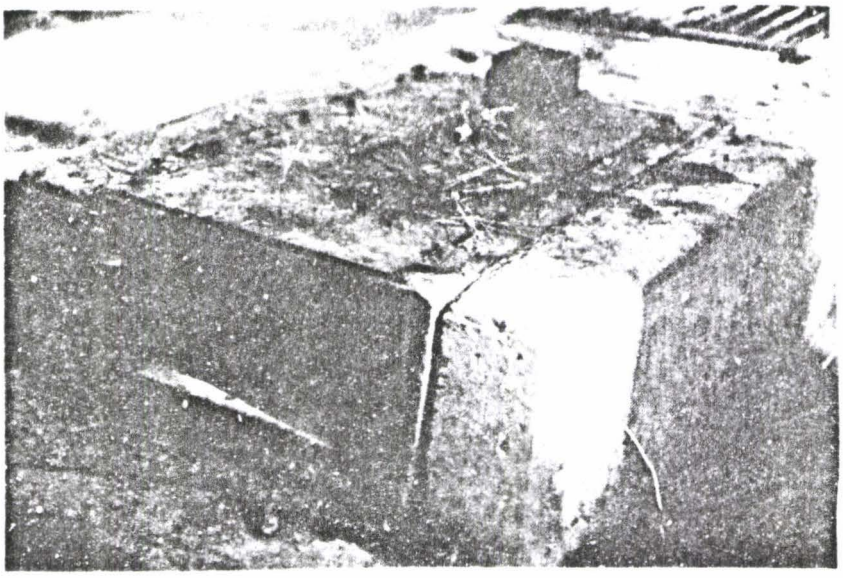
Condition - Concrete block and metal form this substandard fire ring. It should be replaced with an approved type.

STOVES
CONDITION CLASS III

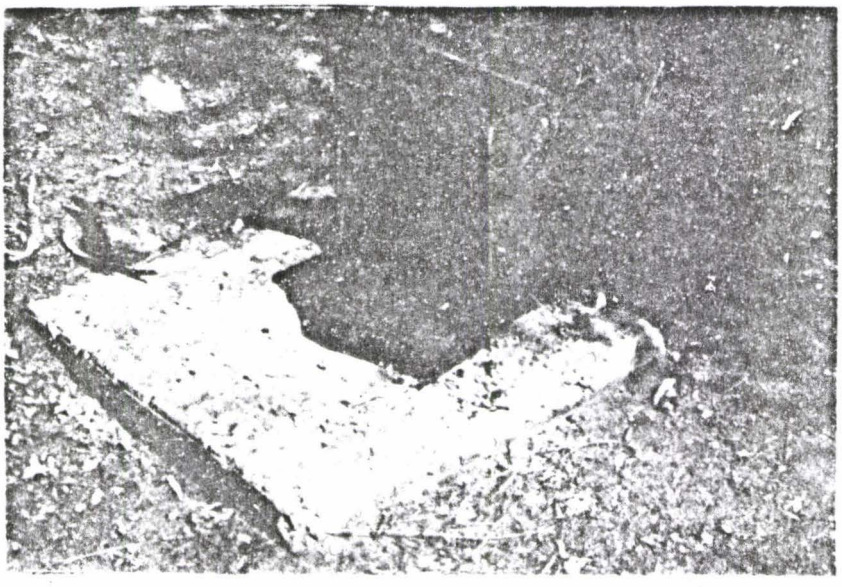


Condition - Pedestal grill which has been pulled out of ground making it unusable. Base must be reset in concrete and stove leveled to meet Condition Class I standards.

STOVES
CONDITION CLASS III

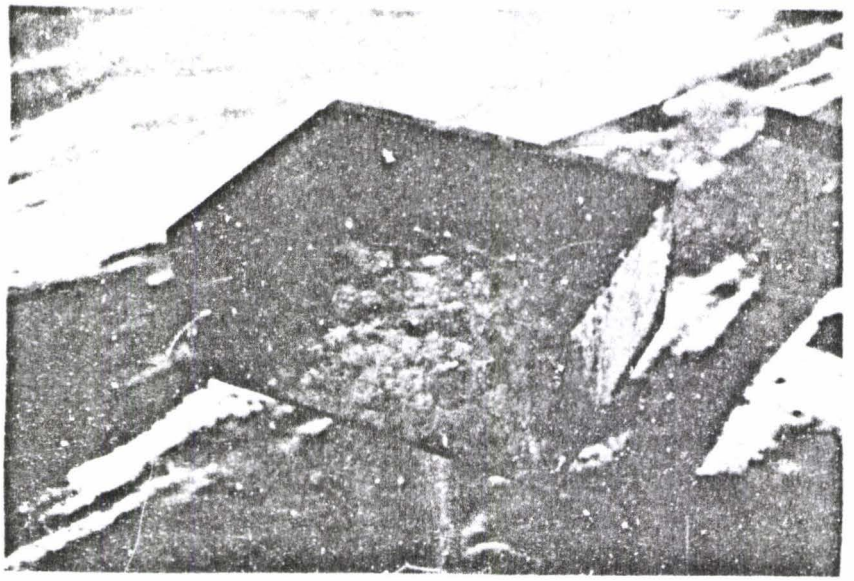


Condition - Door and stack missing on this Klamath stove. High cost of replacement parts makes this a costly stove to maintain. It should be replaced with another approved model where appropriate.



Condition - Concrete base on this flip top stove is cracked and in bad condition. Base must be replaced with fire resistant concrete.

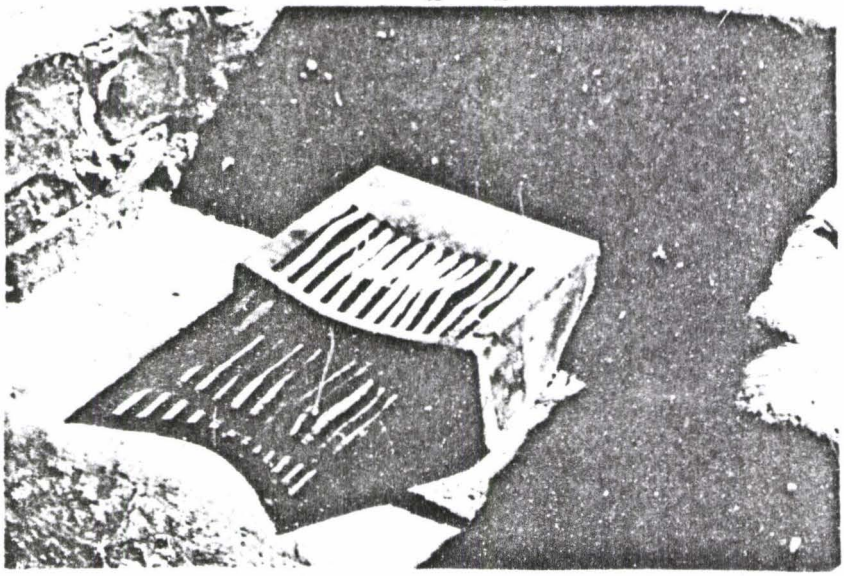
STOVES
CONDITION CLASS IV



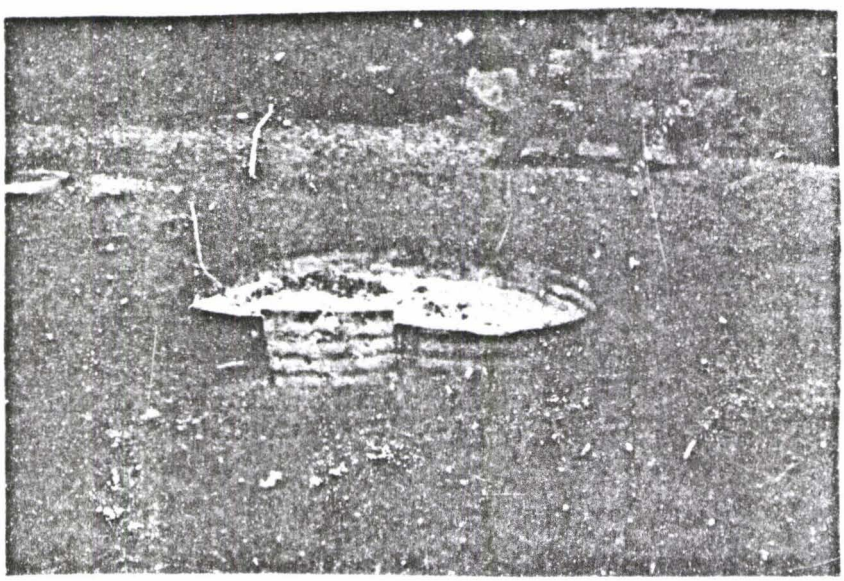
Condition - Pedestal grill with grate missing and side brackets bent. Stove must be replaced with new, like style stove to meet Condition Class I standards.

STOVES

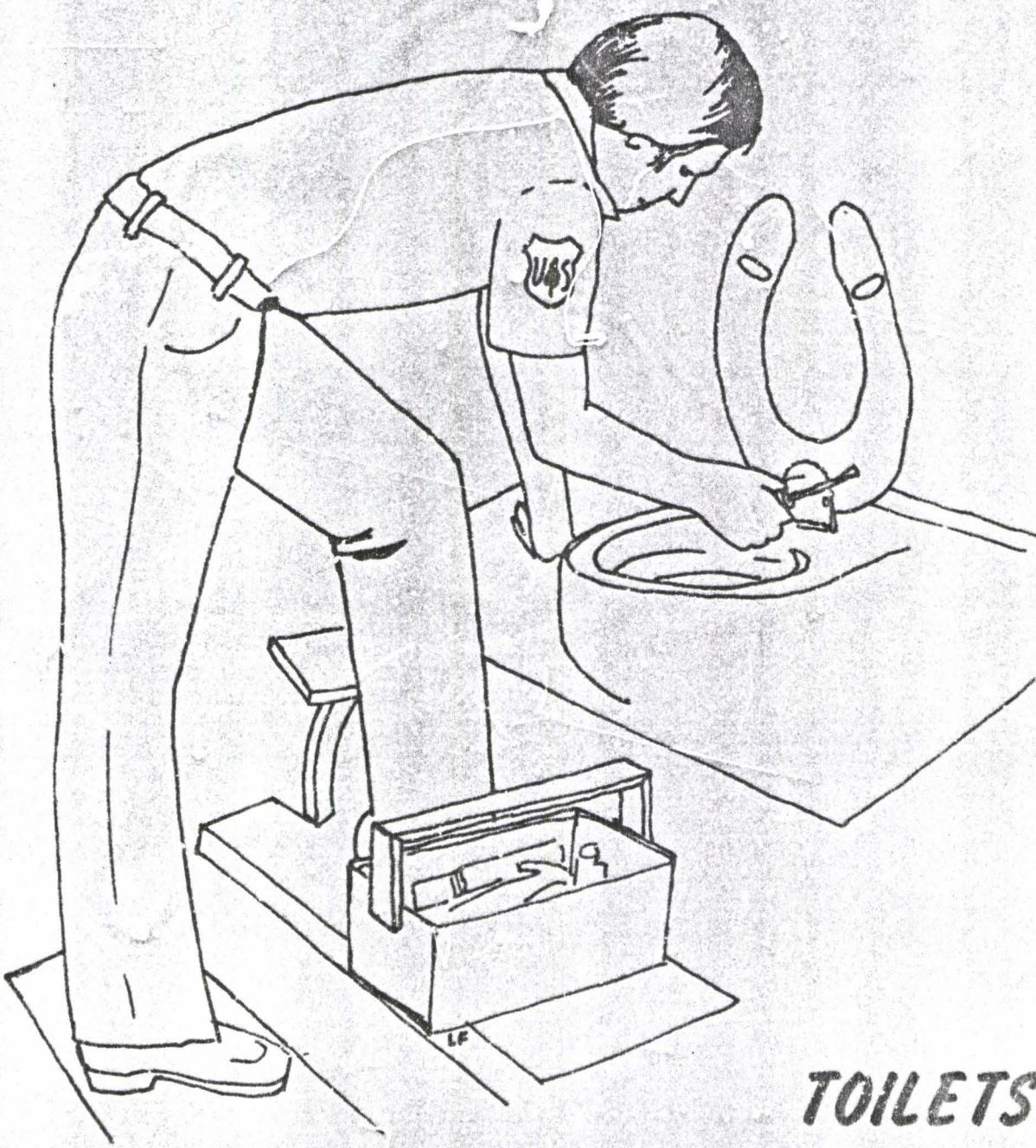
CONDITION CLASS IV



Condition - Entire top on this flip top stove is heat warped and unusable. It must be replaced.

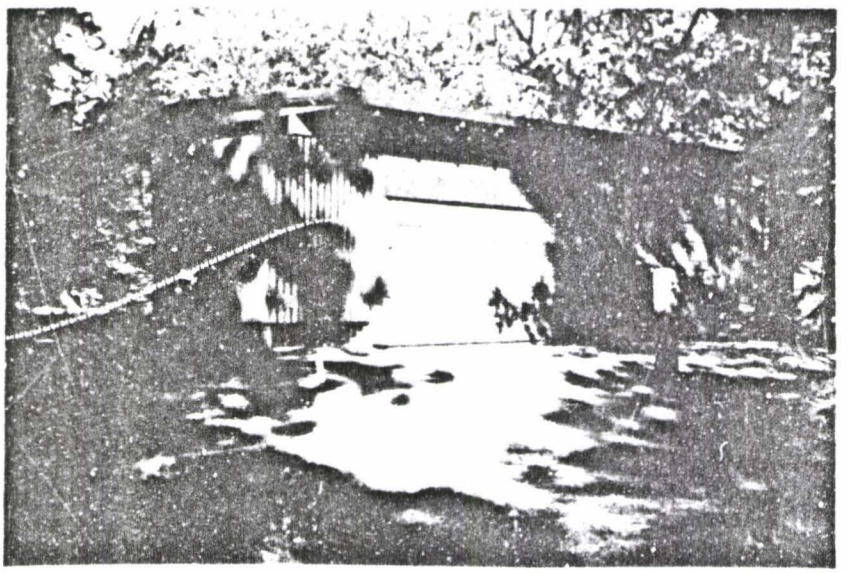


Condition - Ring in bad condition, set too high, and needs replacement with an approved design fire ring.

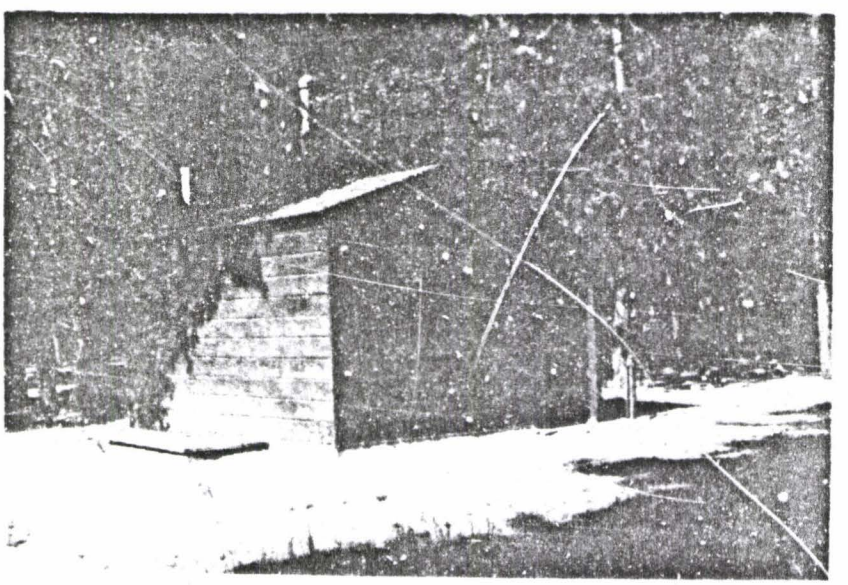



TOILETS

TOILETS
CONDITION CLASS I



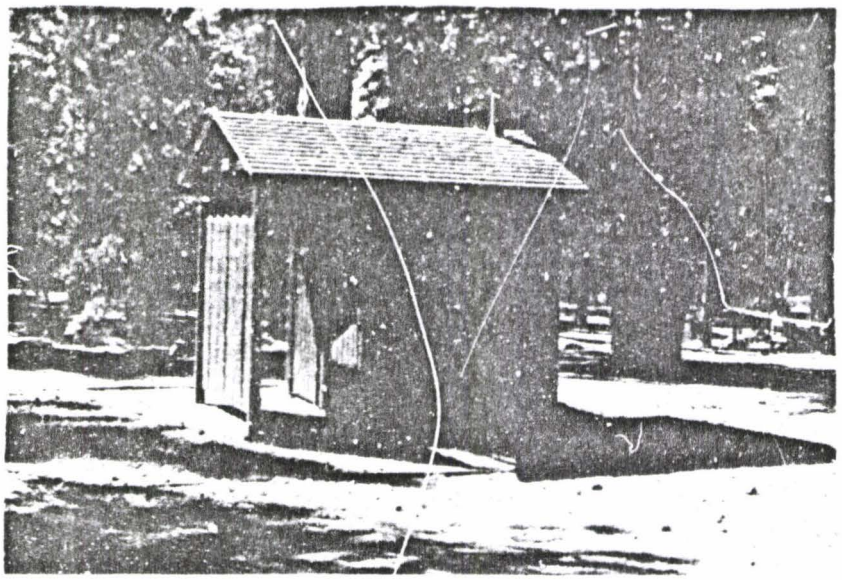
Condition - Toilet in good condition, including pad around outside of building.



Condition - Toilet old, but generally in good condition. Siding needs paint, cleanout cover is not bolted down. The vault does not leak and must be pumped before it is two-thirds full to maintain proper drafts.

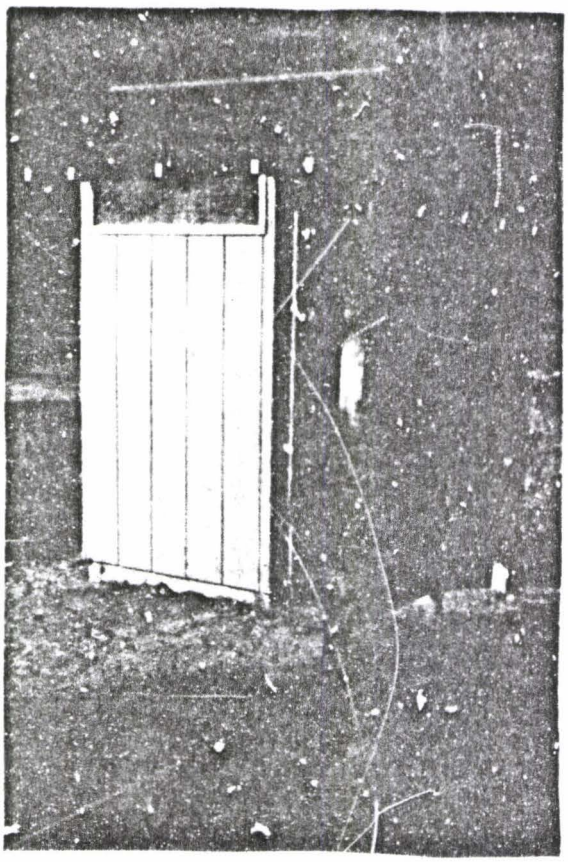
TOILETS

CONDITION CLASS I



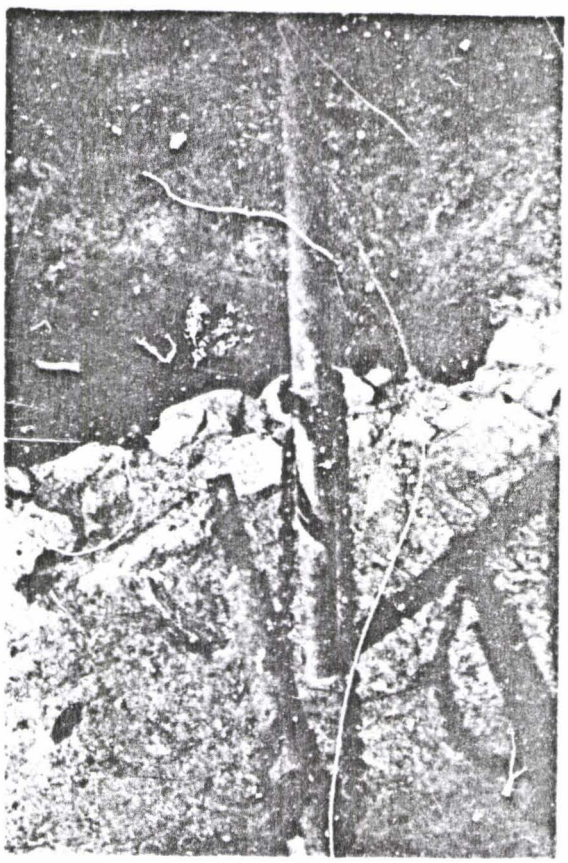
Condition - Generally in good condition, gravel needs replacement around buildings.

TOILETS
CONDITION CLASS II



Condition - Pit toilet must be replaced with vault toilet. Screen not plumb and door closer missing.

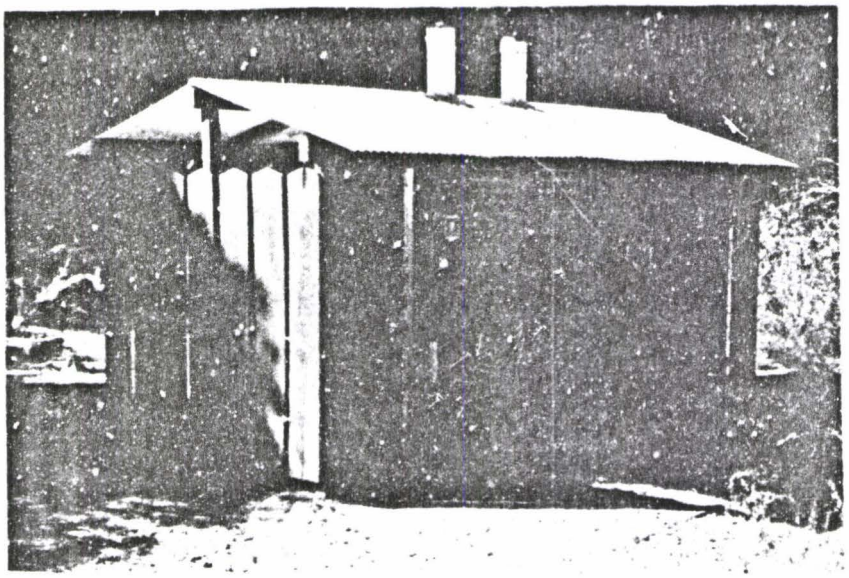
Condition - Road needs retaining wall to keep rocks off the road.



Condition - Substandard gate and locking device. The entire unit should be replaced as soon as possible.

TOILET

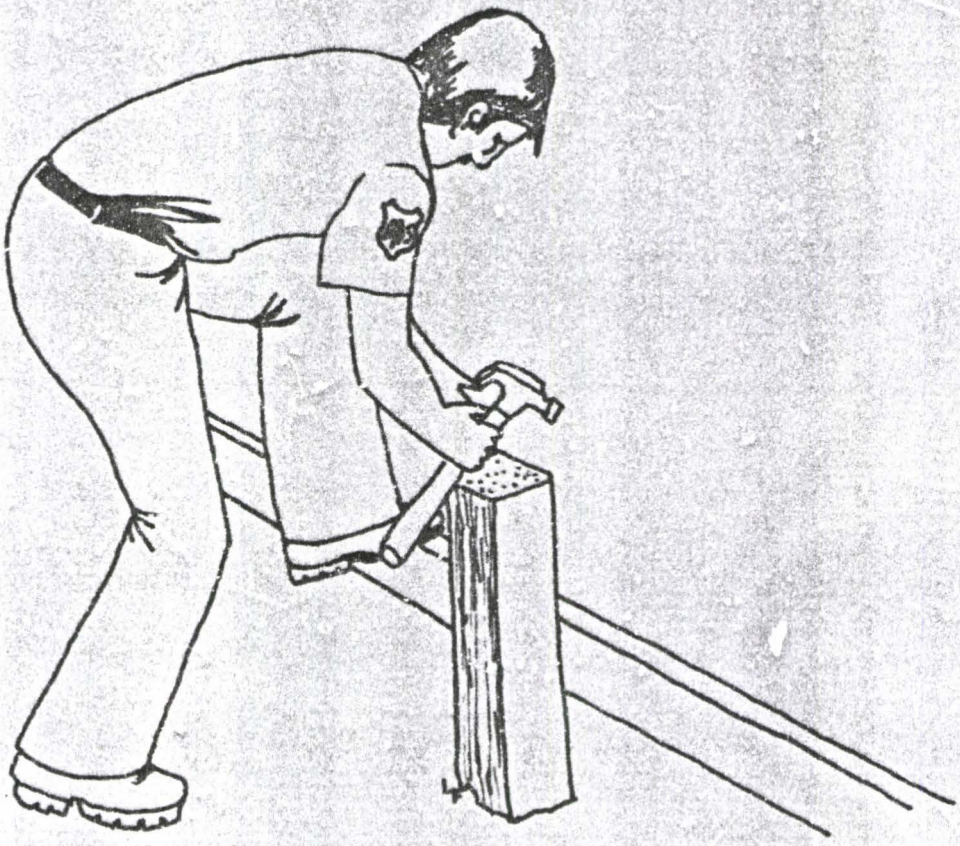
CONDITION CLASS III



Condition - Major repairs required, toilet is subject to flooding, land around building must be regraded to divert water, gravel pad around building needs to be replaced. Door and door closures need to be repaired.

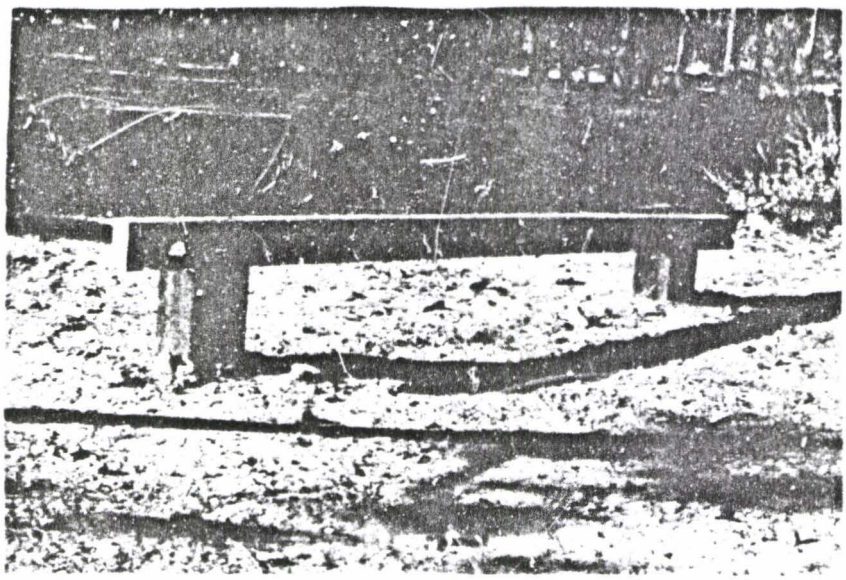
## TOILETS
## CONDITION CLASS IV

There are no Condition Class IV toilets on the San Bernardino.



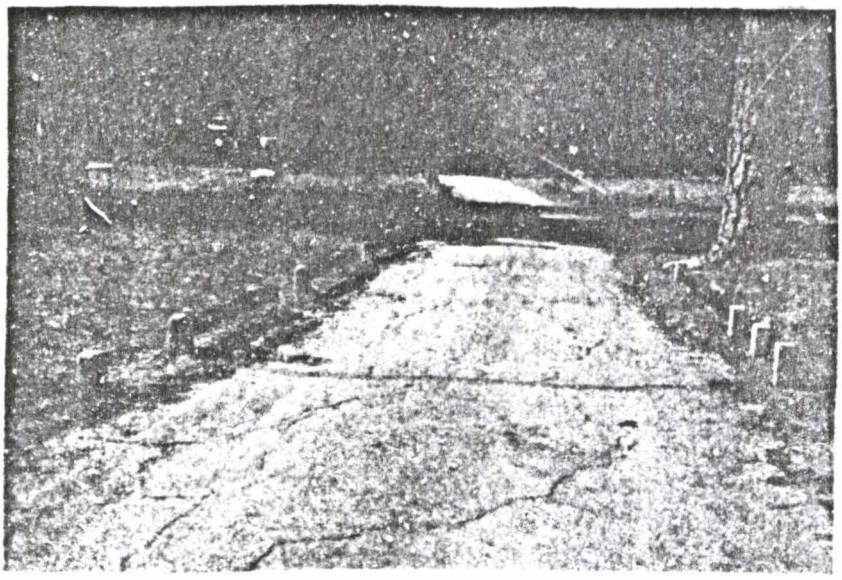
BARRIERS

BARRIERS
CONDITION CLASS I

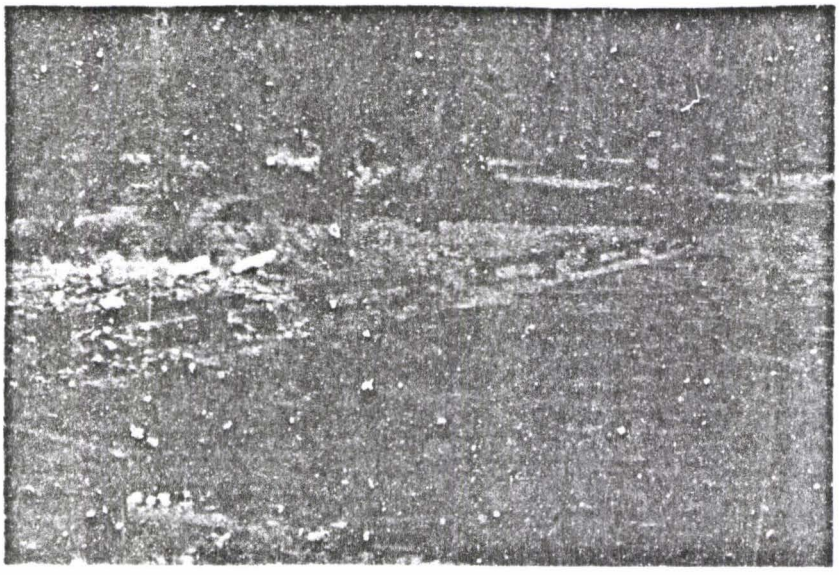


Condition - Barriers and posts in good condition, posts are treated, rail is not since it is not in contact with the ground. Left post was installed higher than the right.

BARRIERS
CONDITION CLASS II



Condition - Barriers are not installed according to approved plans; approved plans call for a post or two between each rail segment. Concrete posts are not an approved standard; these should be replace with wood when possible.



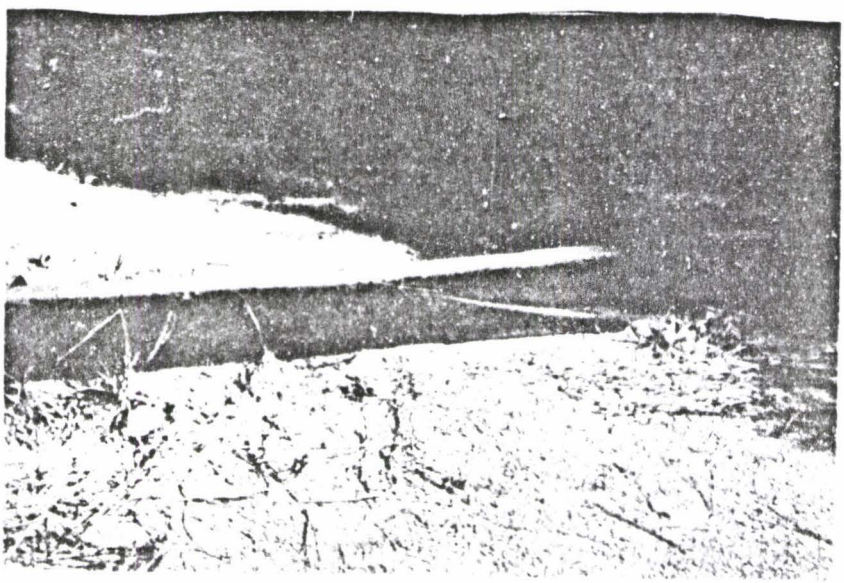
Condition - New parking lot; barriers were not installed according to approved standards which require a post or two between each segment of rail.

## BARRIERS
## CONDITION CLASS III

No Condition Class III barriers exist on the San Bernardino.

BARRIERS
CONDITION CLASS IV

Condition - Broken concrete post needs replacement with treated wood.

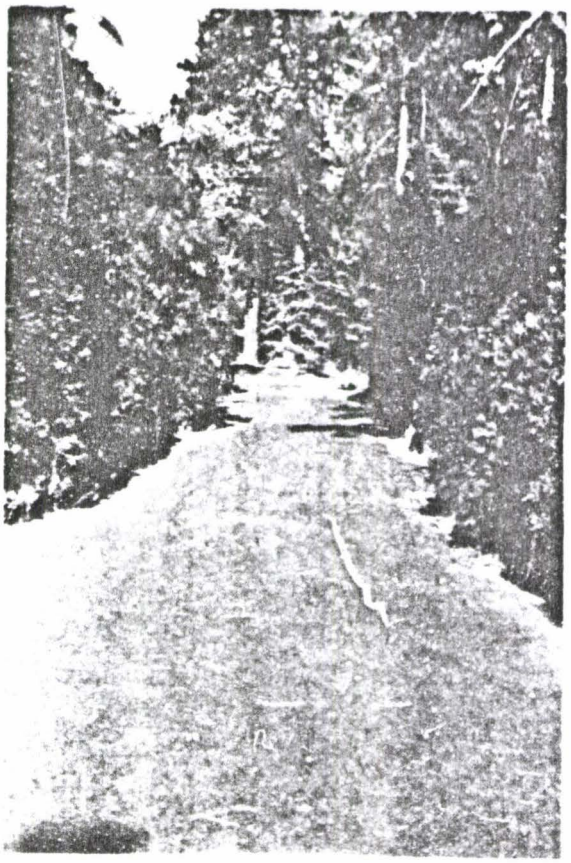


Condition - Broken rail needs replacement.

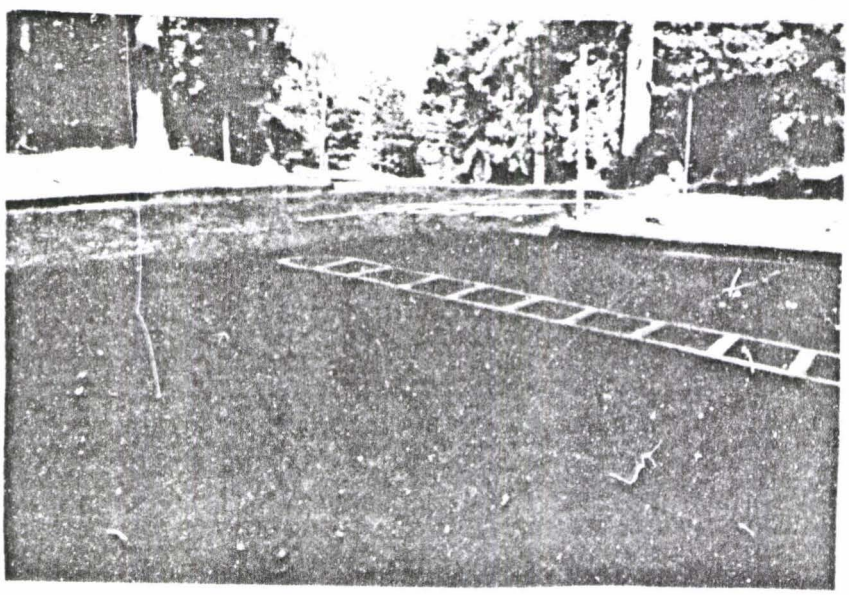
ROADS

ROADS

CONDITION CLASS I

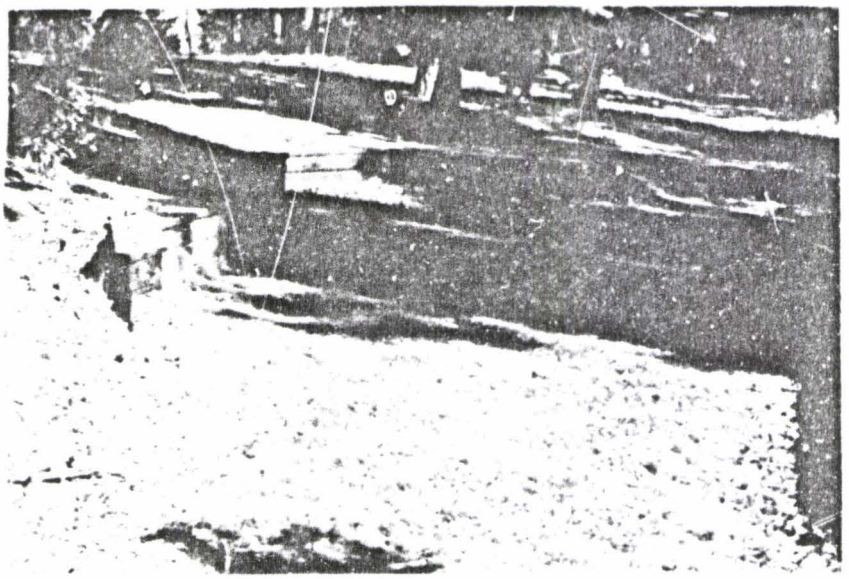


Condition - Pavement in good condition. An annual treatment with a seal coat would help protect the asphalt.

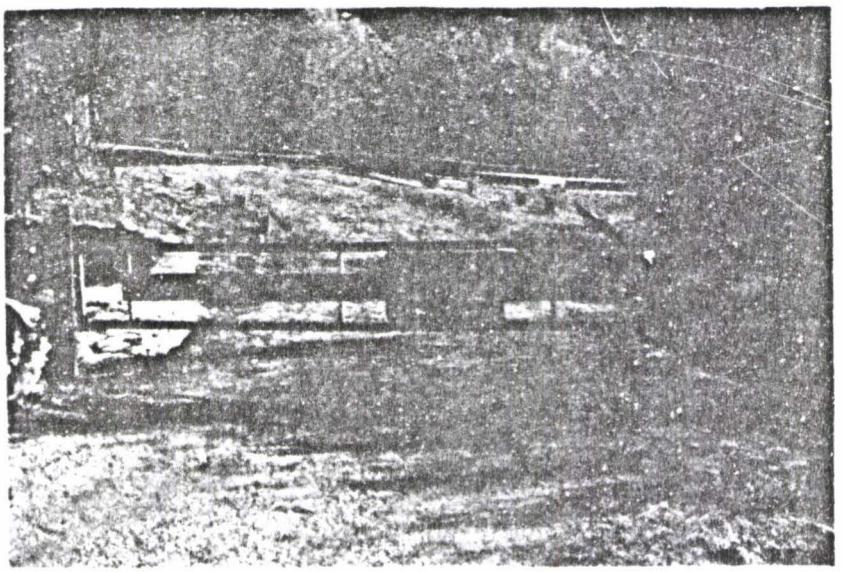


Condition - New asphalt parking lot.

ROADS
CONDITION CLASS 1

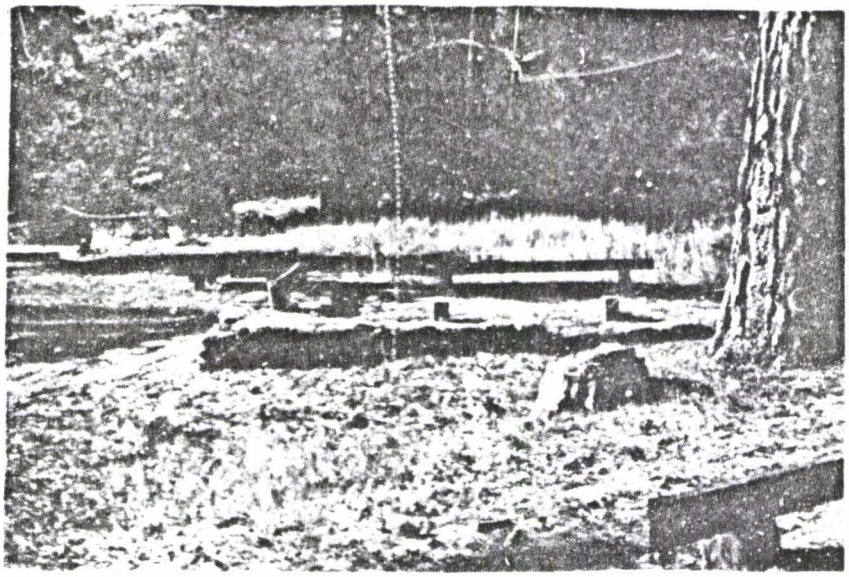


Condition - Handicapped parking spur in new condition.



Condition - Standard gate in good condition. Wood needs paint.

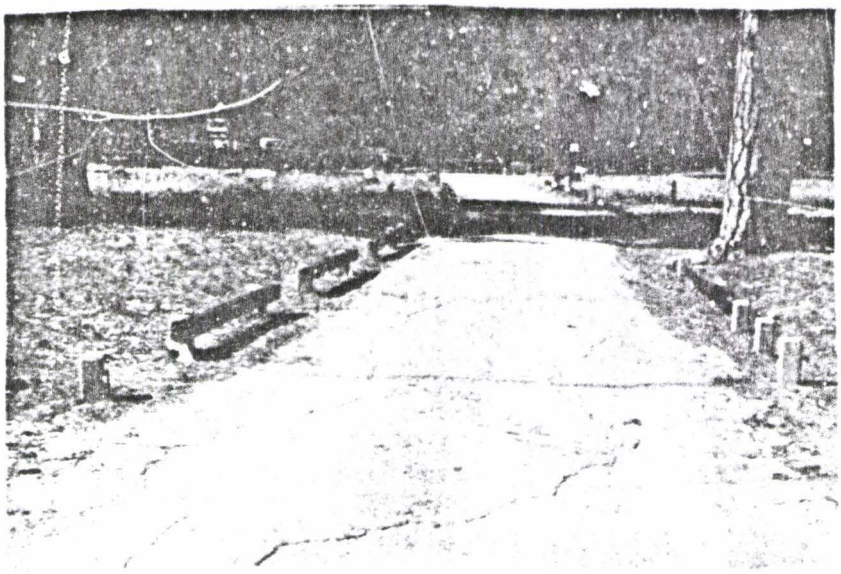
ROADS
CONDITION CLASS II



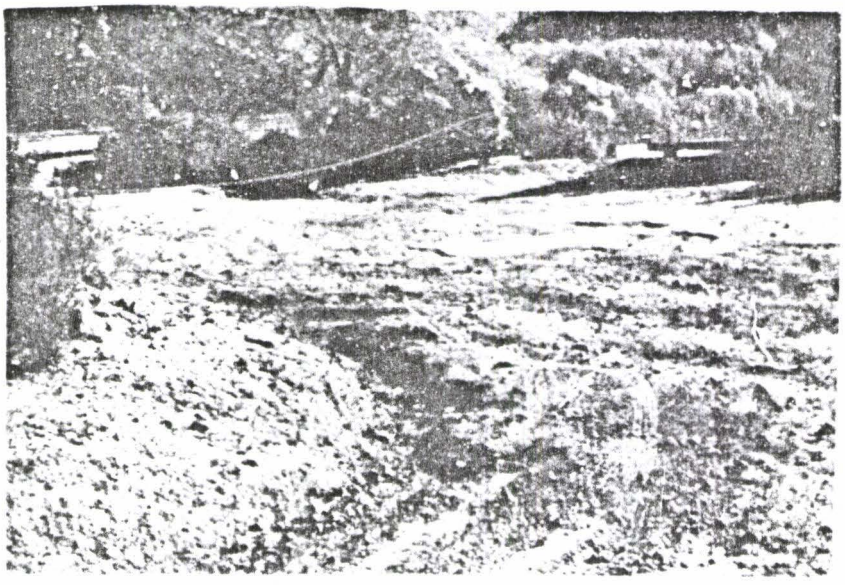
Condition - Substandard retaining wall around parking spur. Spur should be reshaped to eliminate safety hazard.

ROADS

CONDITION CLASS III

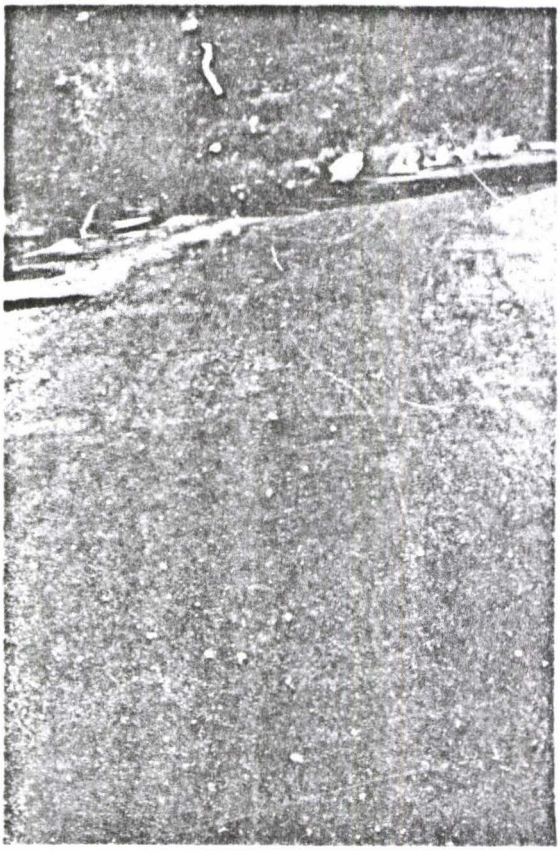


Condition - This surface is old. It can be restored with a chip seal which will restore the life of the existing road surface.

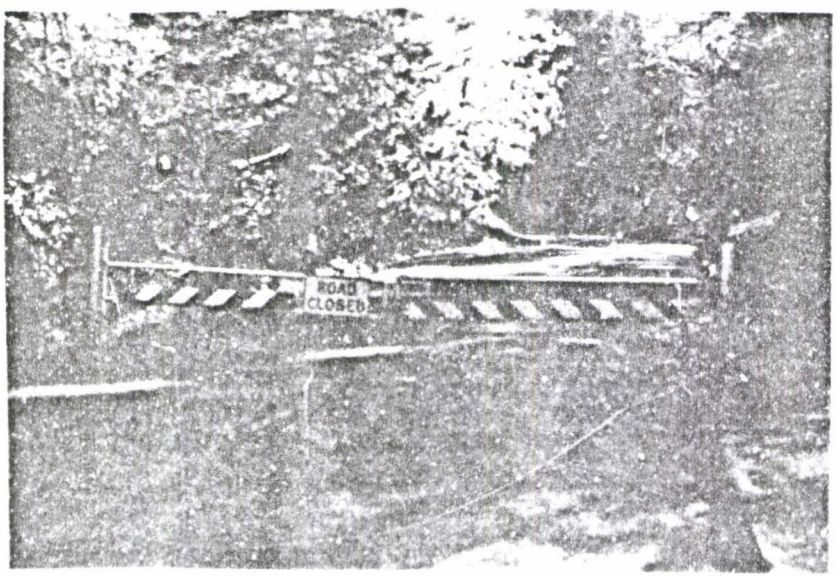


Condition - This parking lot adequate with a gravel surface. It needs to be reshaped to improve the drainage.

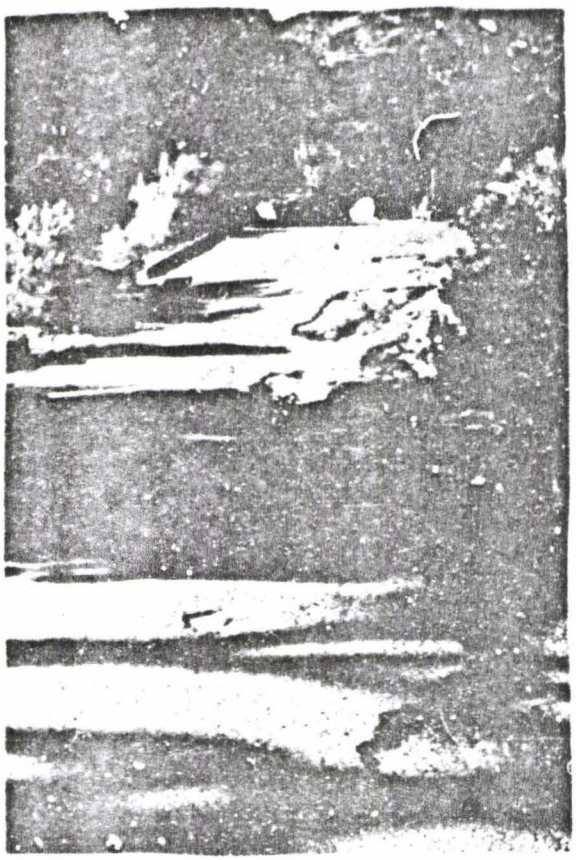
ROADS
CONDITION CLASS III



Condition - Chip seal requires recoating with oil and gravel periodically to restore the road surface.

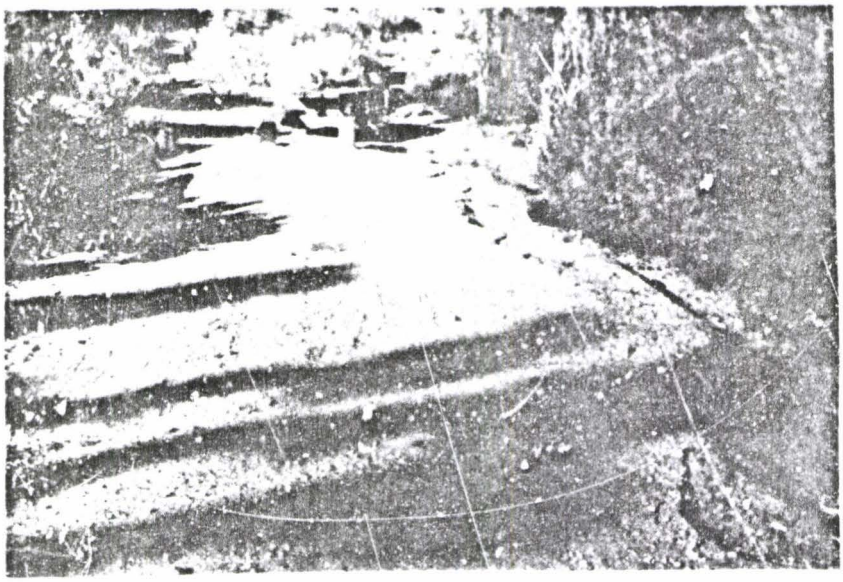



Condition - Gate out of alignment, some pipes are bent, the wood needs paint.

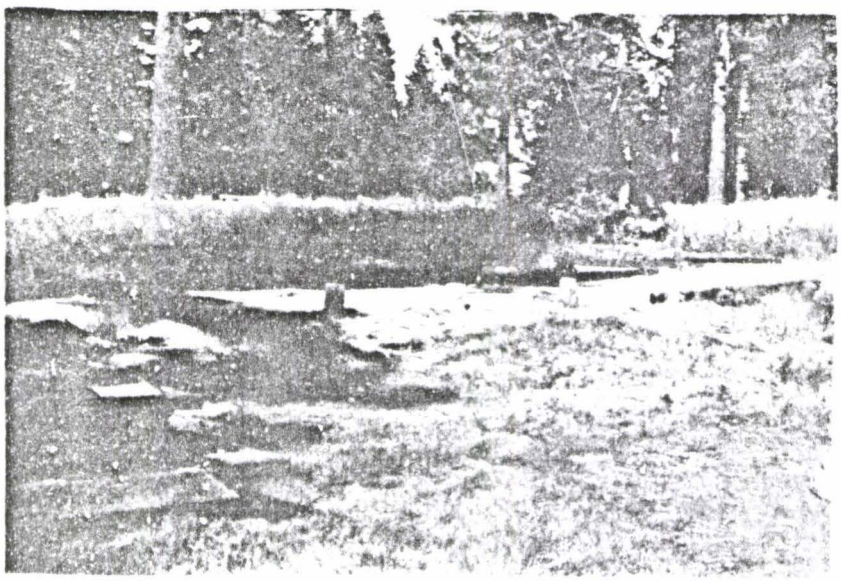


Condition - Road needs to be patched and re-chip sealed on this low use access.

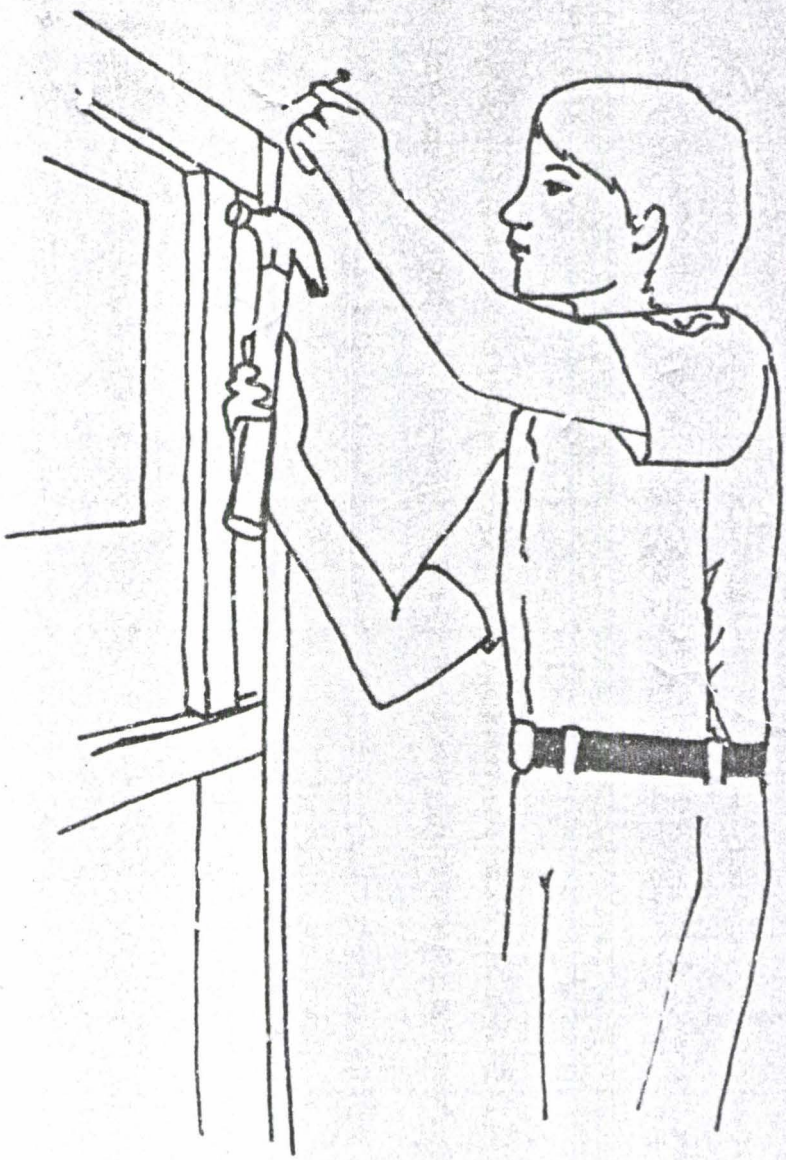
Condition - Dirt road in bad condition. Steep grades and poor drainage should be repaired and reshaped.



Condition - Parking spur with the edge of chip seal breaking up. The spur should be reshaped and sealed with a new coat of chip seal.

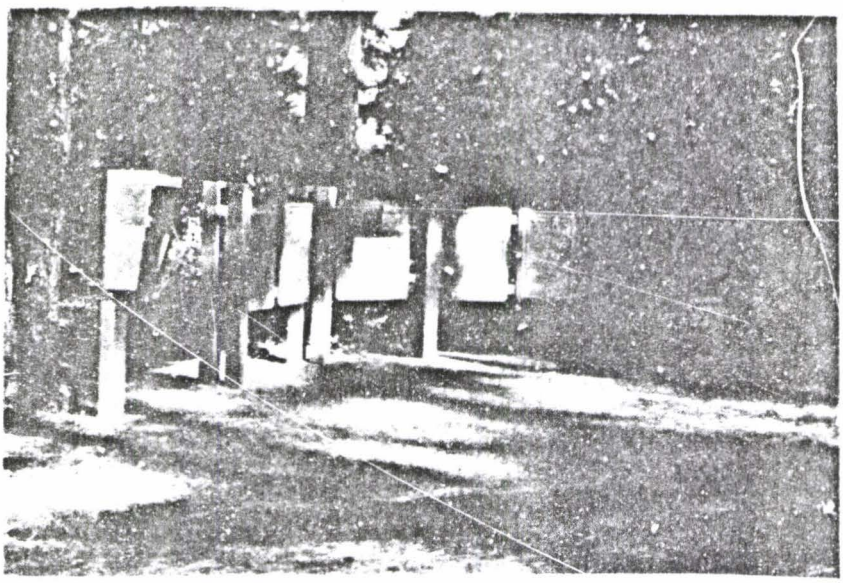


Condition - Steep grade on parking spur should be eliminated.

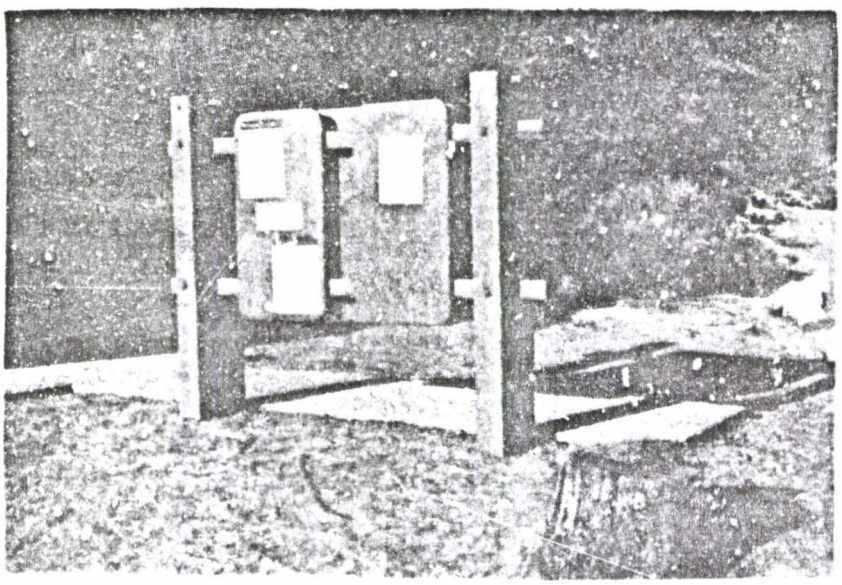


BULLETIN BOARDS

BULLETIN BOARDS
CONDITION CLASS I

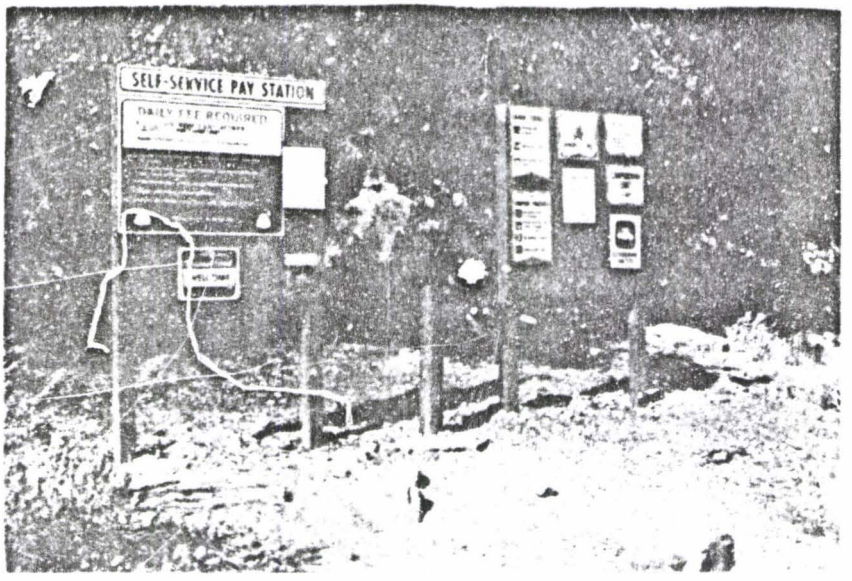


Condition - Well cared for fee station and bulletin board combination. Durable signs kept current and in good condition, lumber is in good condition and stained, walking area level and dust free, trash can provided, lights for night operation.



Condition - Bulletin board only; in good, stained condition.

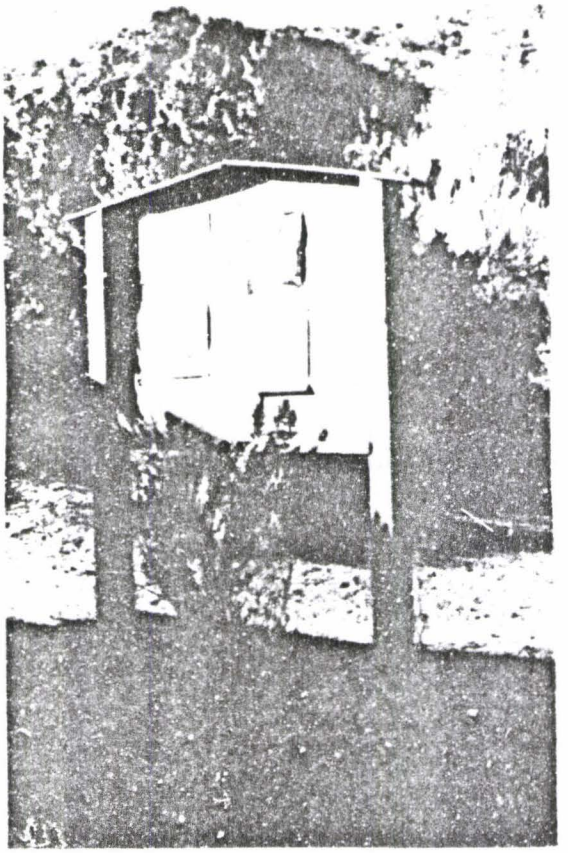
BULLETIN BOARDS
CONDITION CLASS II




Condition - Fee station that meets neither Regional nor Forest standards. Well maintained, but should be replaced. Poor footing for visitors.

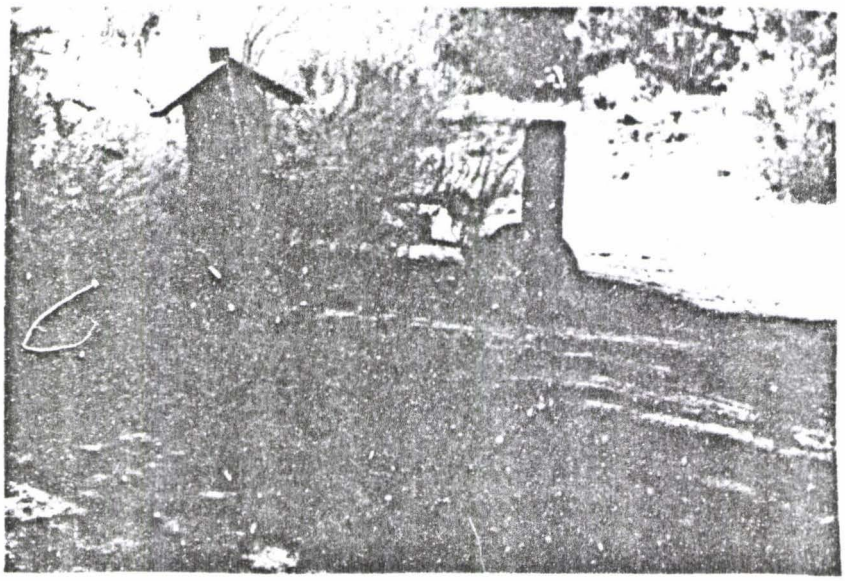
Condition - Fee station that does not meet Forest or Regional standards. It should be replaced to meet the Condition Class or standards.

BULLETIN BOARD
CONDITION CLASS III



Condition - This bulletin board requires heavy maintenance. Shingles on roof are missing and the panel is full of holes. The shrub should be removed.

BULLETIN BOARDS
CONDITION CLASS IV



Condition - The entire fee station has been vandalized and is missing, except for field safe. It should be replaced with Regional or Forest standard design.

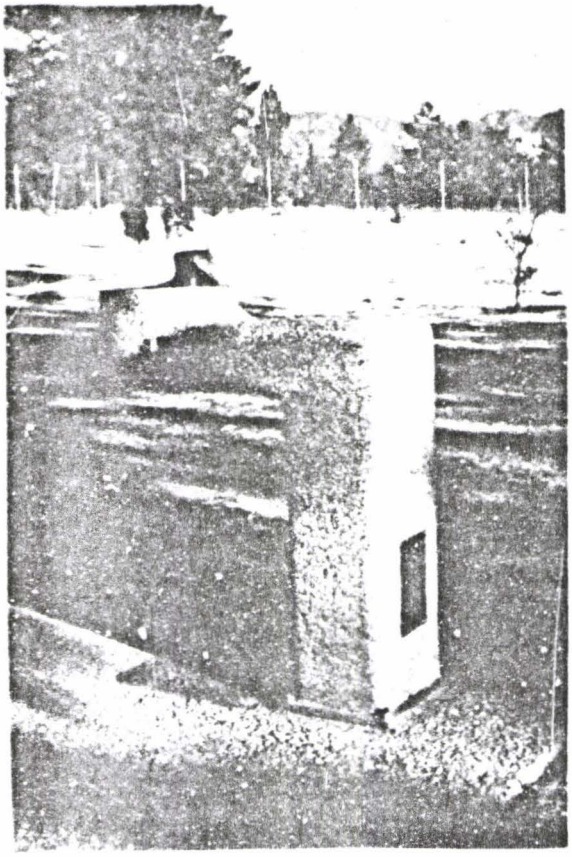
# WATER SYSTEMS

WATER SYSTEMS
CONDITION CLASS I

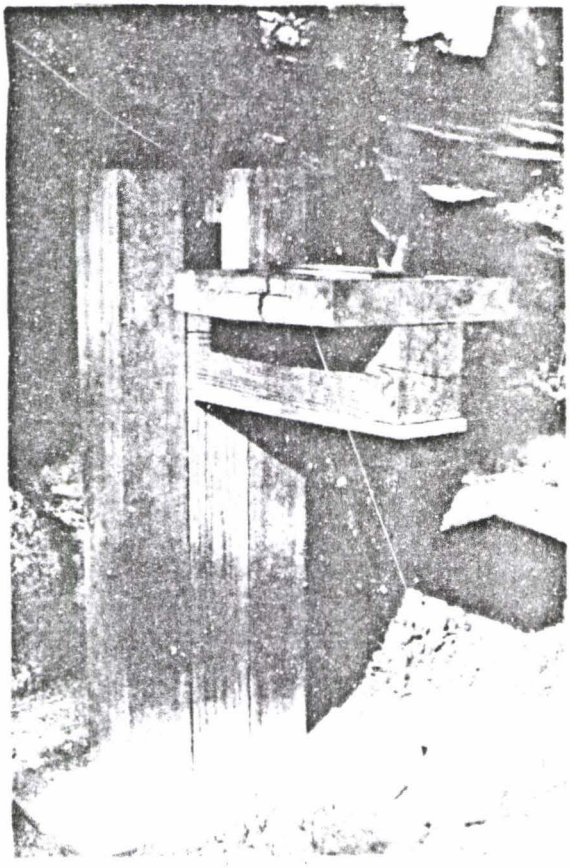
Condition - Well maintained, stained, the ground is clean and there are no water leaks.

Condition - Well maintained, clean, fresh gravel, no leaks.

WATER SYSTEMS
CONDITION CLASS I



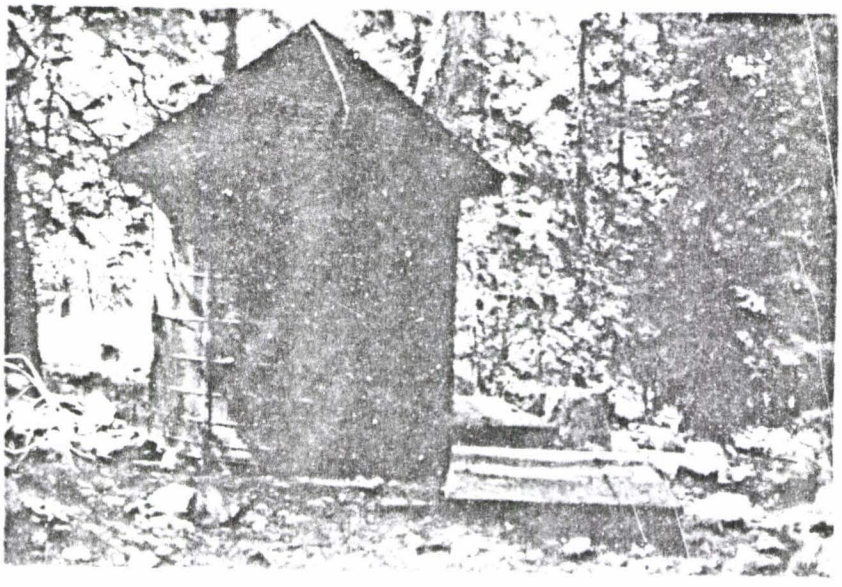
Condition - New condition, clean, pad in good shape, no leaks.



Condition - Good condition, dish should be reset so it is flush with wood, no leaks in water system. A hard surface pad must be installed around base for the handicapped.

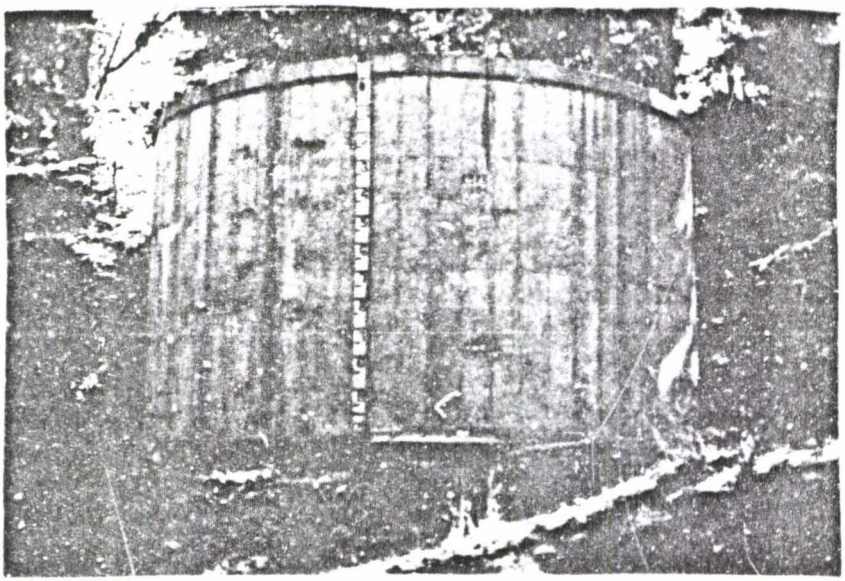
WATER SYSTEMS
CONDITION CLASS I

Condition - Valve box needs paint, otherwise it is in good condition.



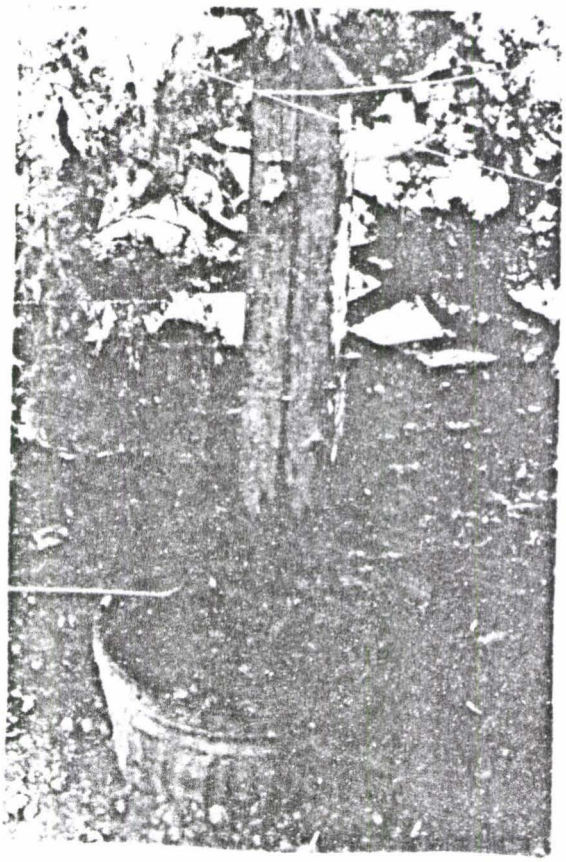
Condition - This redwood tank is in good condition. It is sealed and sanitary.

WATER SYSTEMS
CONDITION CLASS I

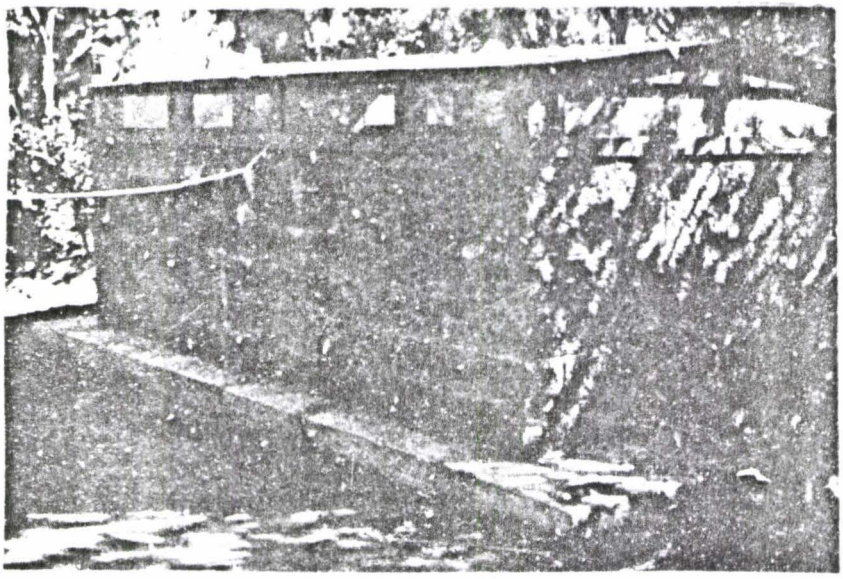


Condition - This concrete tank is in good condition. The float marker could use paint. The tank is sealed and sanitary.

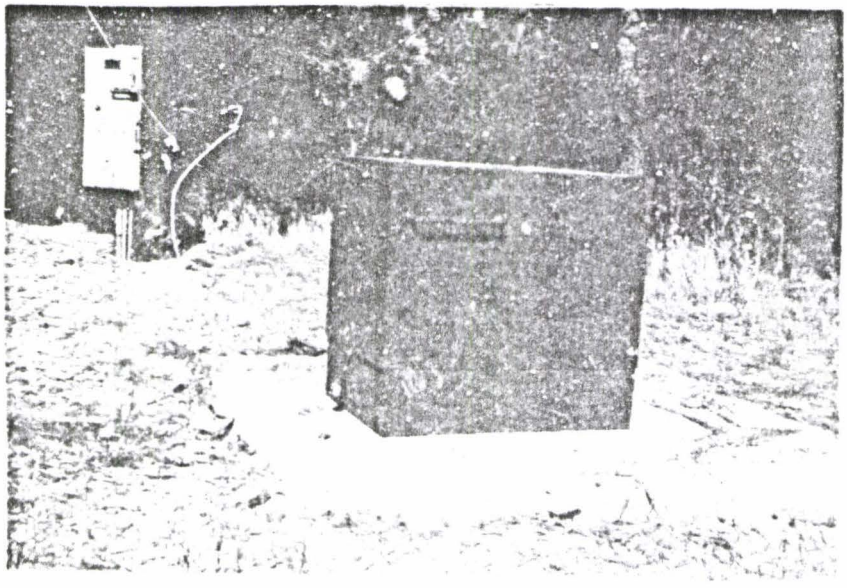
WATER SYSTEMS
CONDITION CLASS II



Condition - Substandard faucet; the catch basin is inadequate and unsanitary; the post should be straightened and stained.



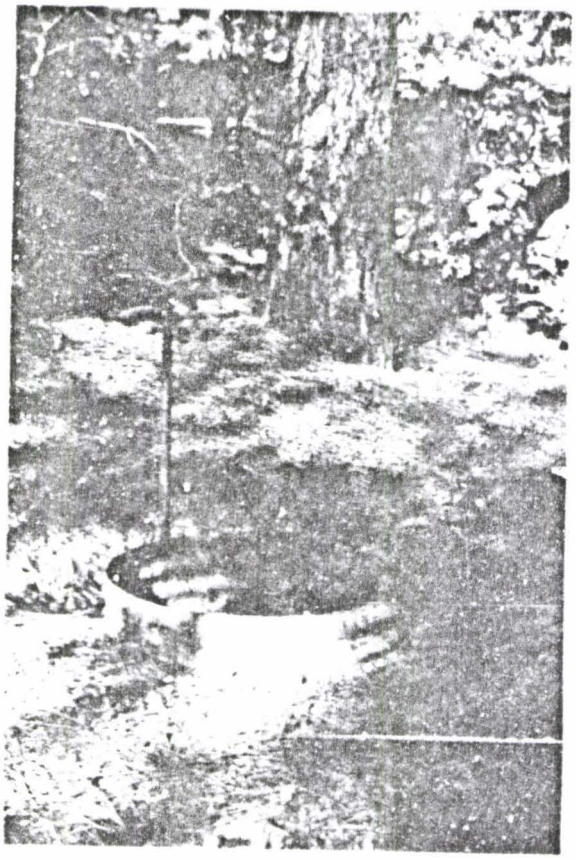
Condition - This pumphouse is substandard due to poor design; the building generates heat, burning out the pumps due to a low metal roof.



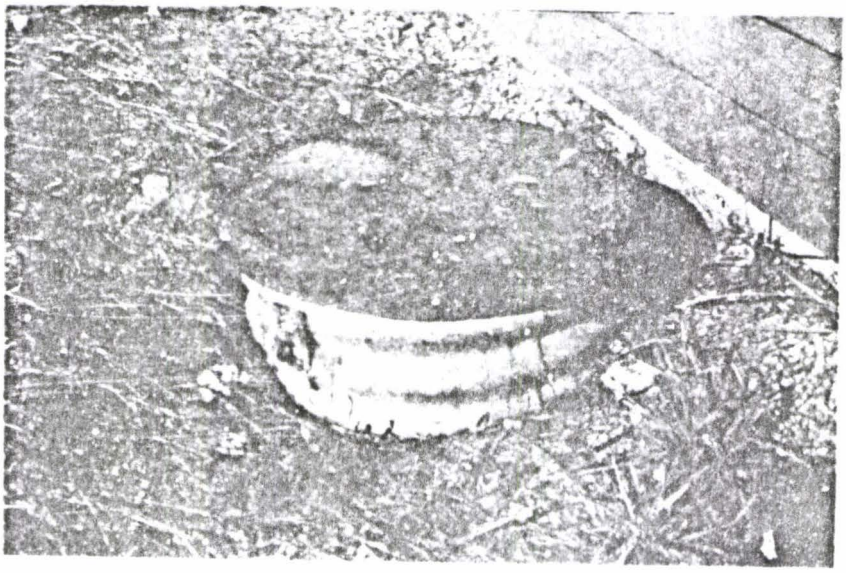
Condition - Substandard due to poor design. Located in a high vandalism area with no protection.

WATER SYSTEMS

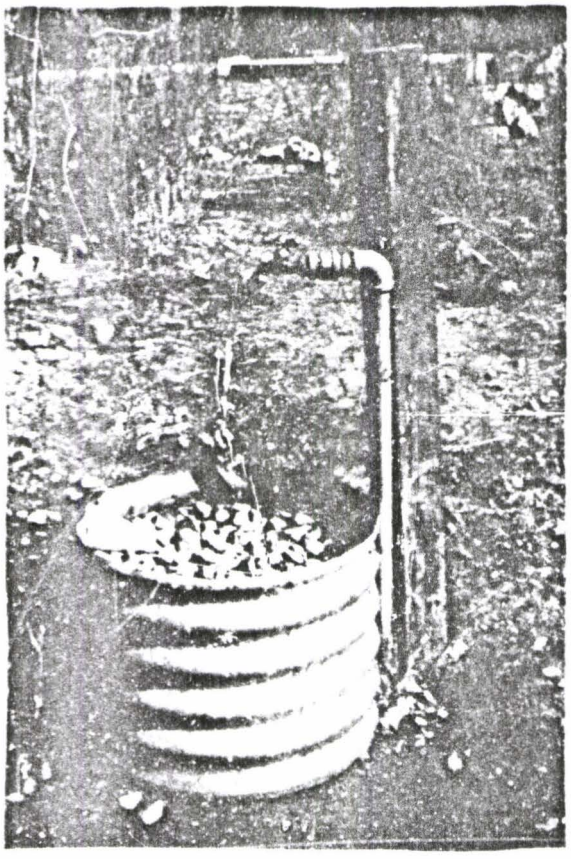
CONDITION CLASS III



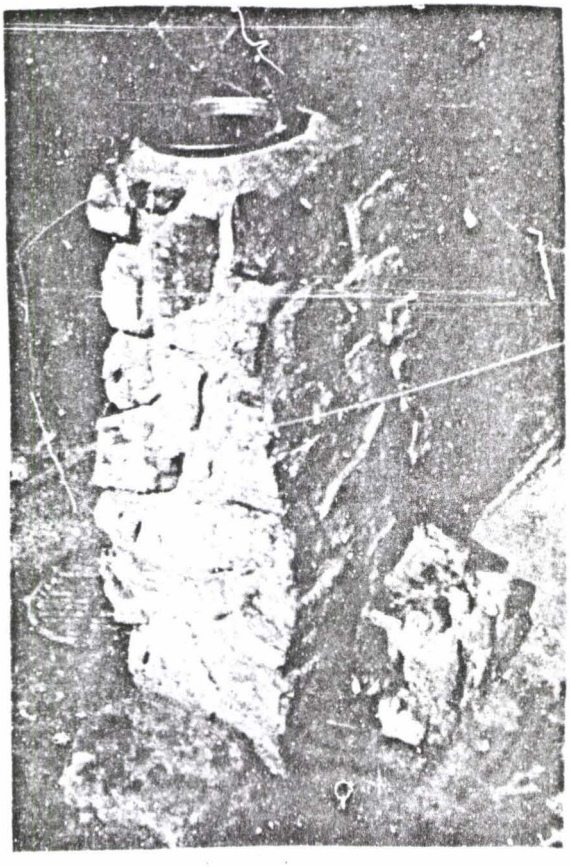
Condition - Heavy maintenance is required to replace this post, gravel and soil around catch basin.



Condition - Heavy repairs needed to replace and paint lid.



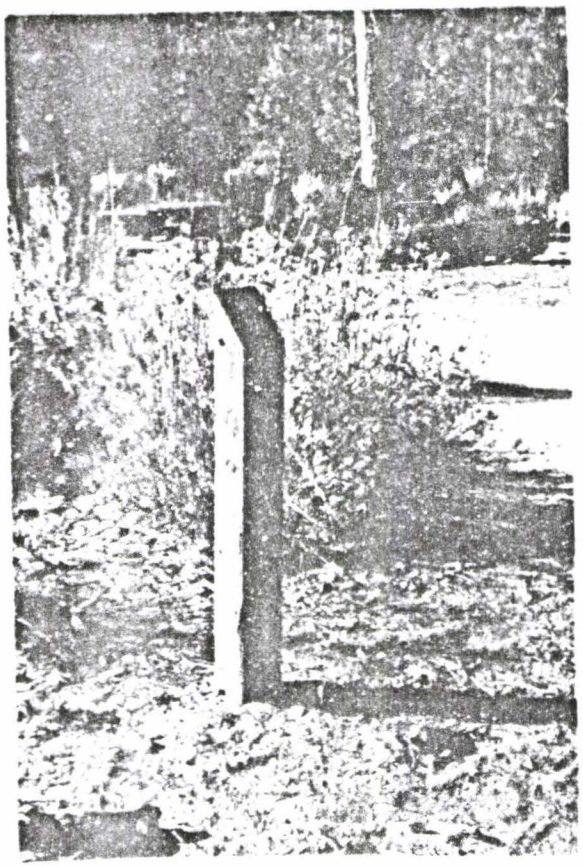
Condition - Total replacement is required; water leak below ground, post rotten and placed too high, faucet not plumbed properly, catch basin is too high and unsanitary.



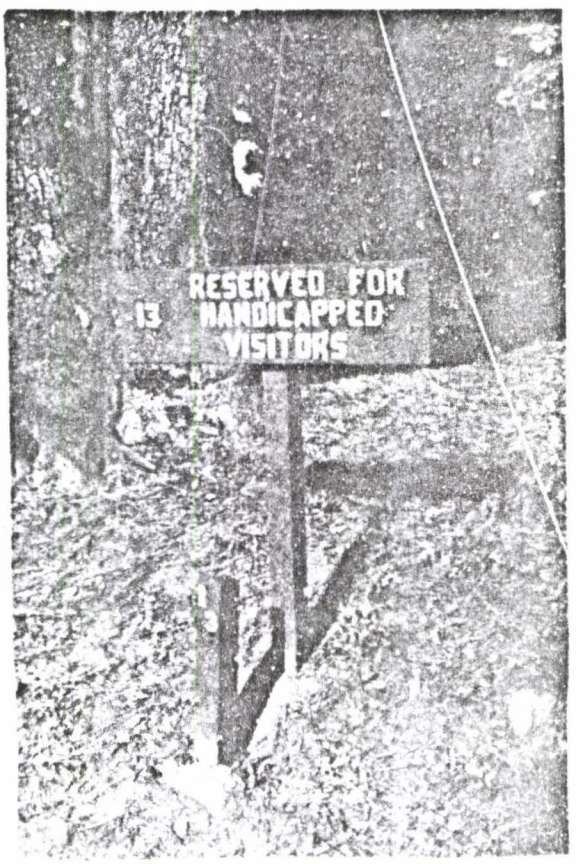
Condition - This valve is broken, with no allowance made in design for repair. Once repaired, a hand valve should be installed for children.

# MISCELLANEOUS

MISCELLANEOUS
CONDITION CLASS I



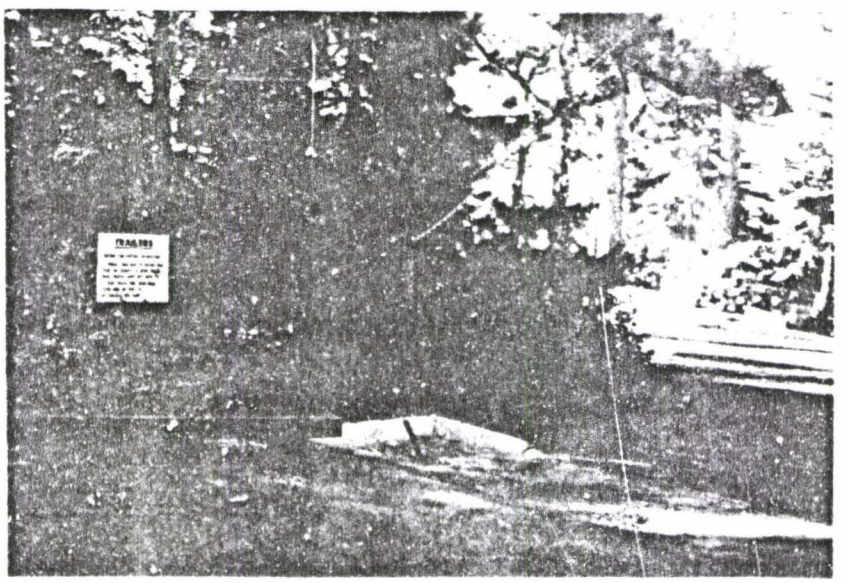
Condition - This site marker needs stain and numbering; otherwise it is in good condition.




Condition - Site marker is in good condition. The numbered post needs straightening.

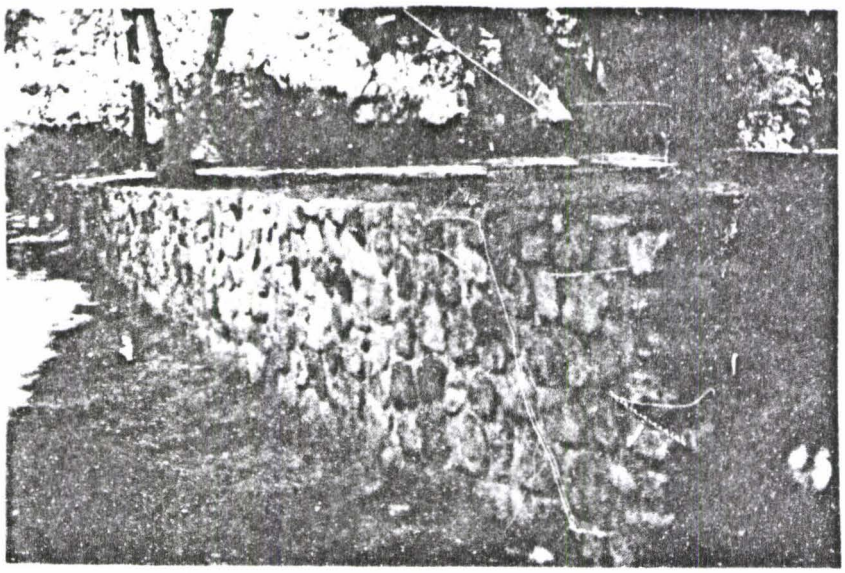
MISCELLANEOUS
CONDITION CLASS I

Condition - This entrance sign is well maintained. The "closed" sign is placed crooked to attract attention.

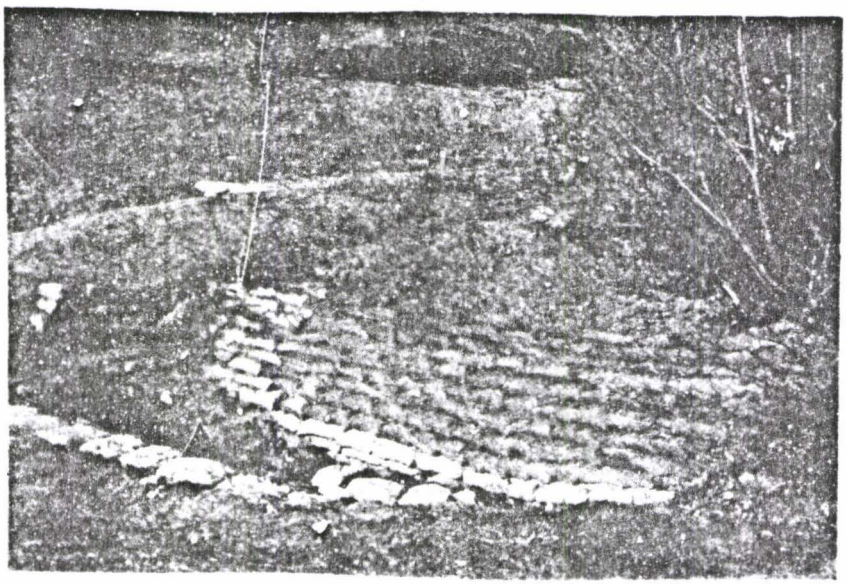


Condition - Trailer dump station is in a fair state of repair. One sign is missing and the valve at the end of hose needs replacement; otherwise it is quite functional and sanitary.

MISCELLANEOUS
CONDITION CLASS I

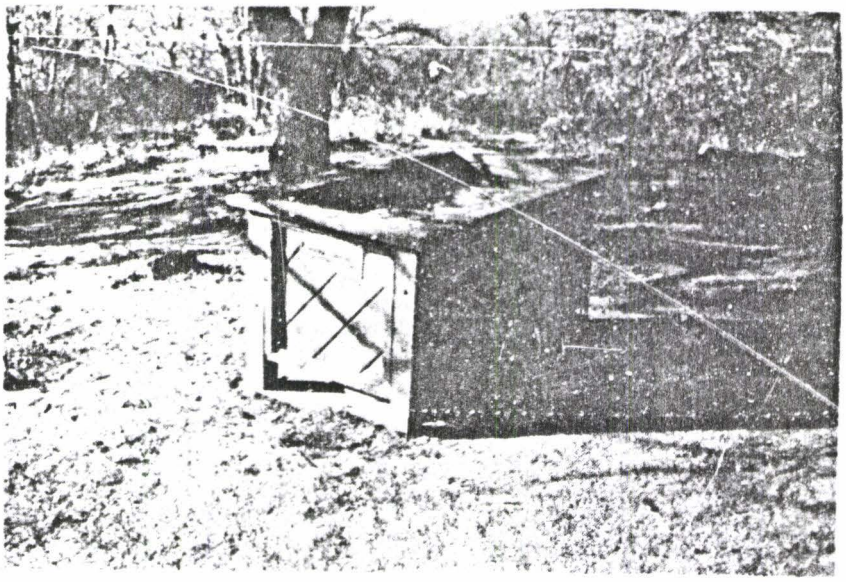


Condition - Rock wall is in good condition.

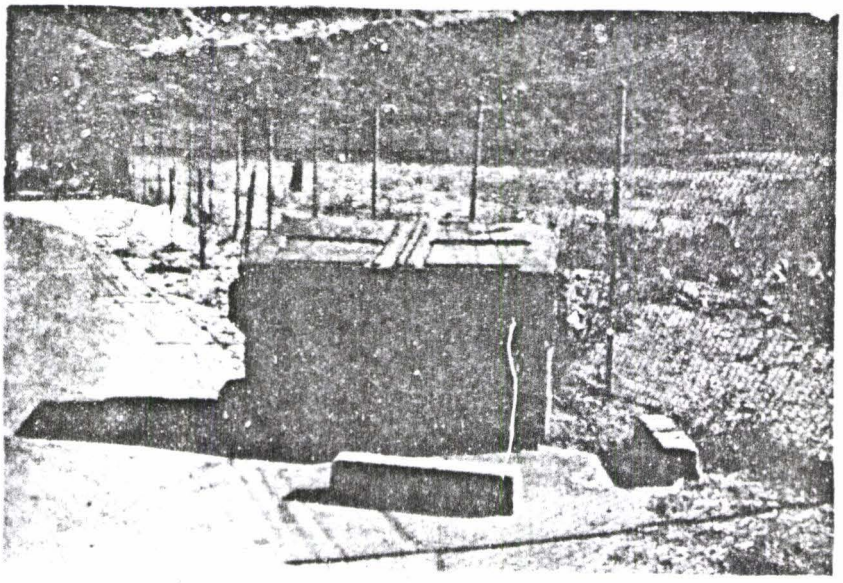


Condition - Soil cement check dam is in good condition.

MISCELLANEOUS
CONDITION CLASS I

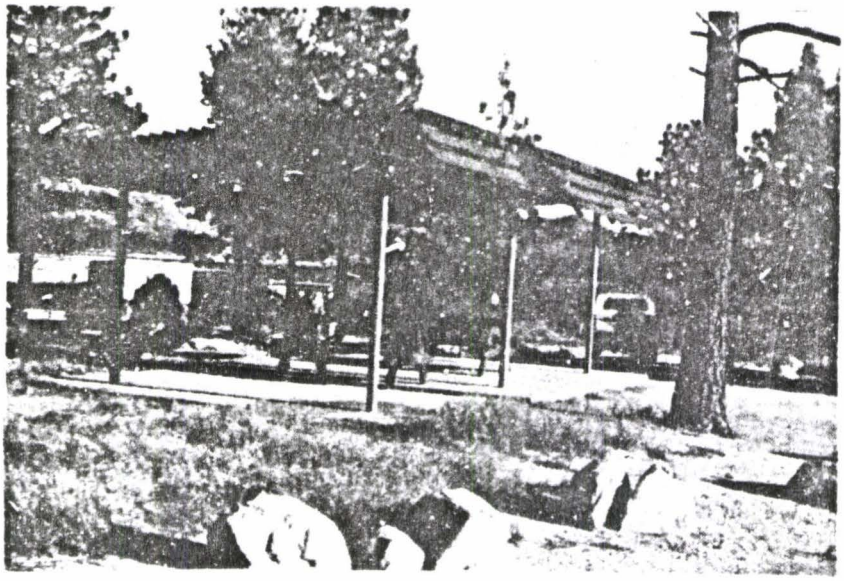


Condition - Garbage cans and screen are in good repair.

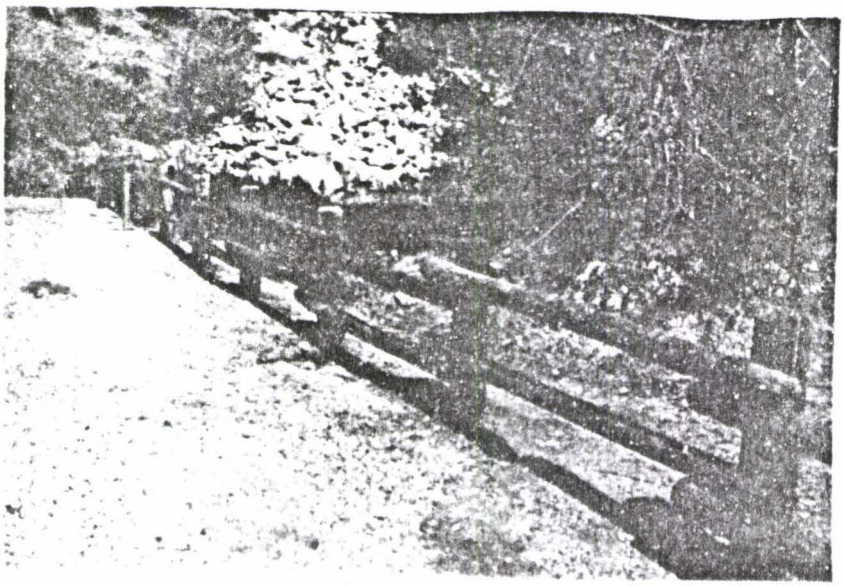


Condition - Garbage bin and pad are in good repair.

MISCELLANEOUS
CONDITION CLASS I

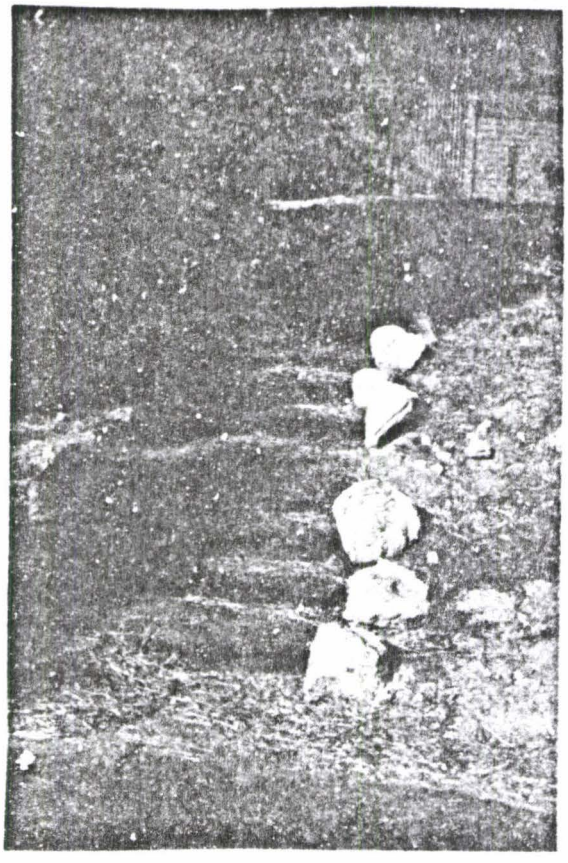


Condition - Cabana is in good repair.

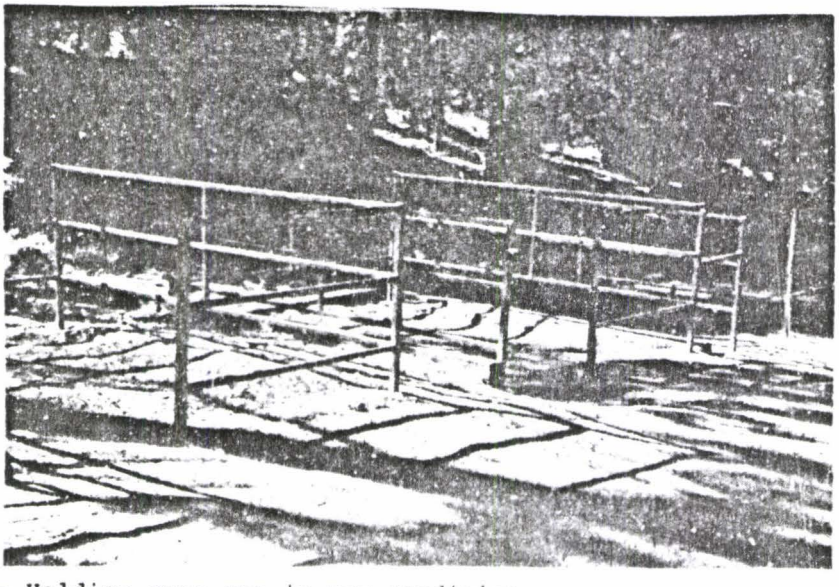


Condition - Rail fence is in good repair. It could be stained or a natural weathered finish.

MISCELLANEOUS
CONDITION CLASS I

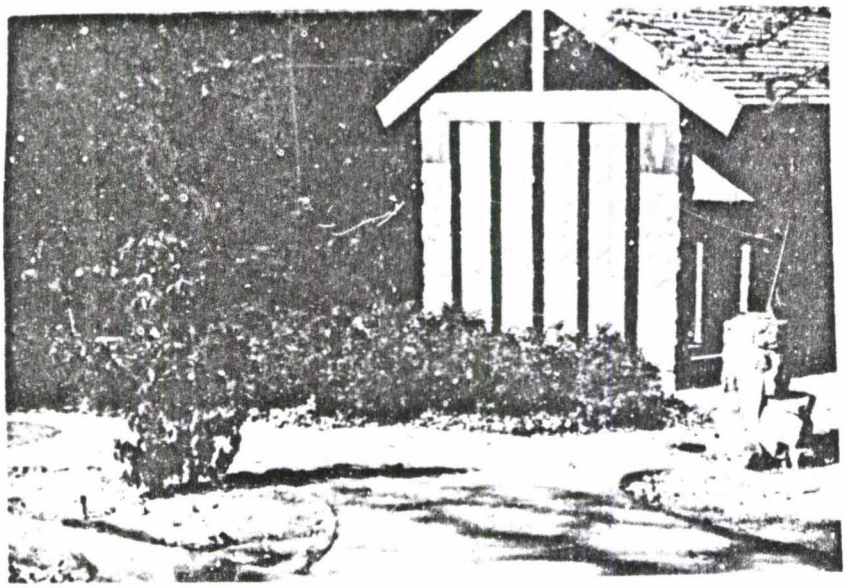


Condition - Stairway is in new condition.

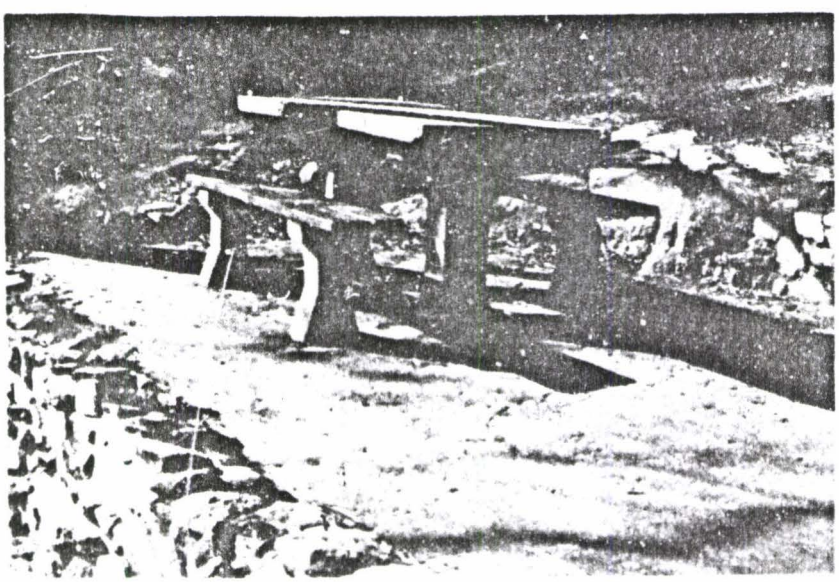


Condition - Holding pens are in new condition.

MISCELLANEOUS
CONDITION CLASS I

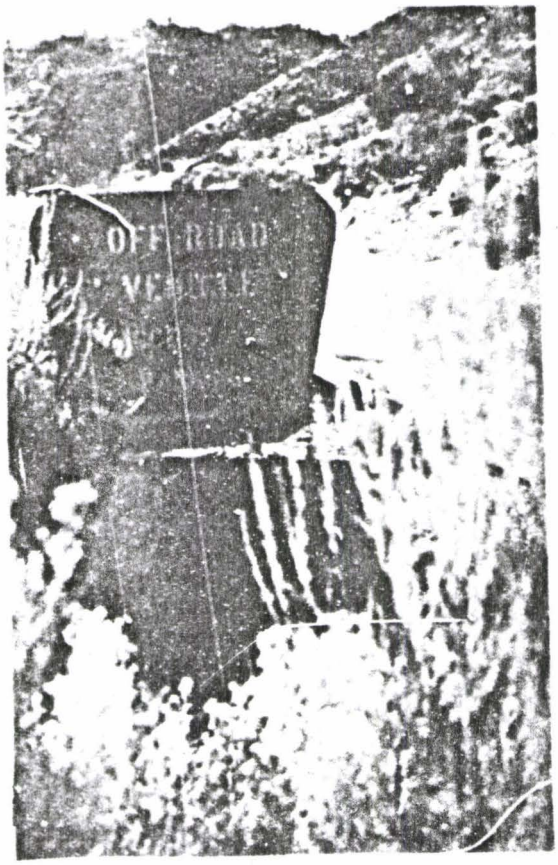


Condition - Landscaping is in fair condition. The plants lost should be replaced.

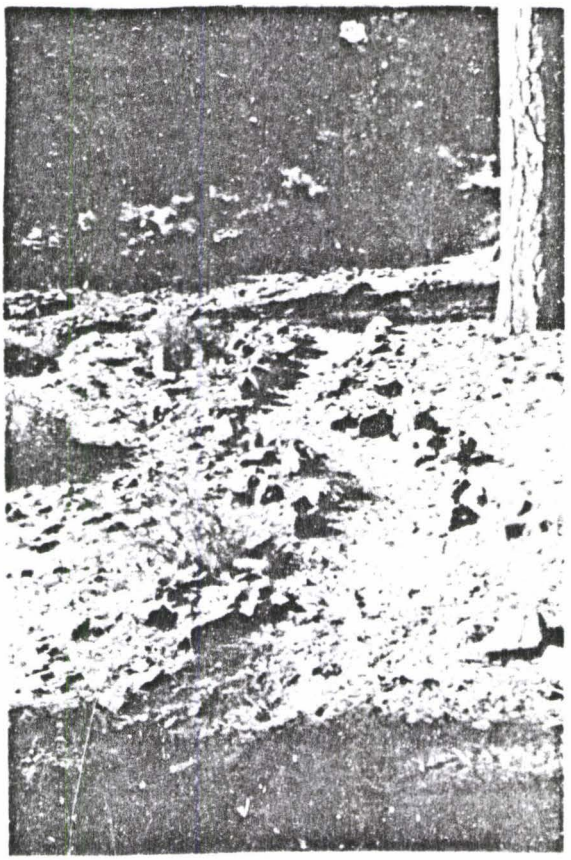


Condition - Asphalt table pad is in new condition.

MISCELLANEOUS
CONDITION CLASS II

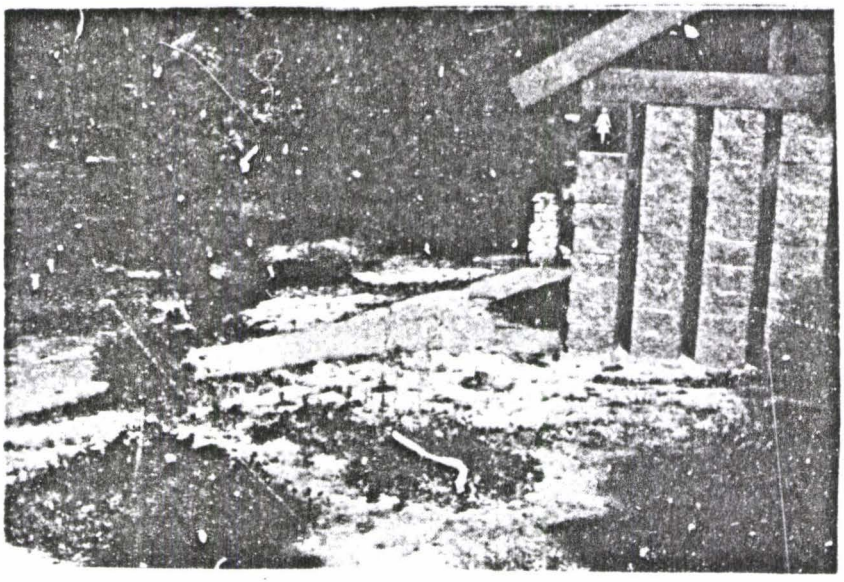



Condition - Substandard use of site entrance sign. It should be replaced with an approved design.

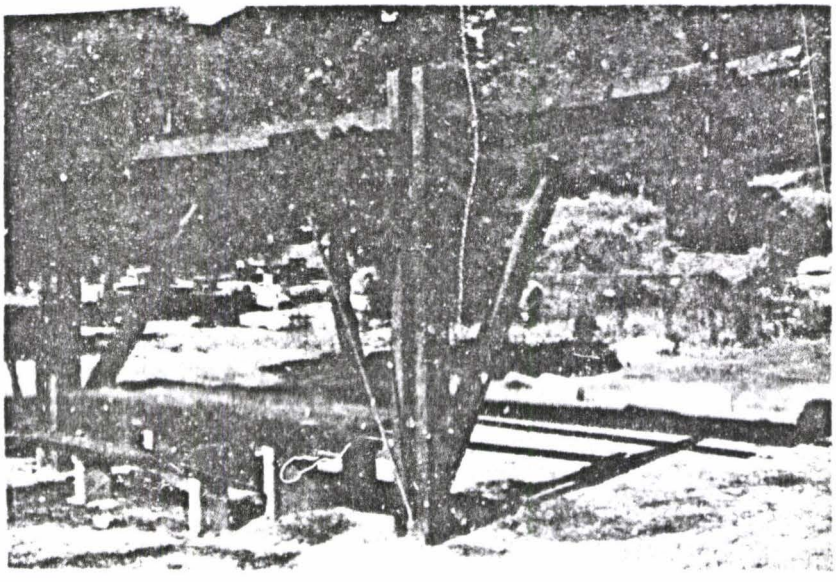


Condition - Visitor constructed trail to campsite. It should be reconstructed to trail standards.

MISCELLANEOUS
CONDITION CLASS III

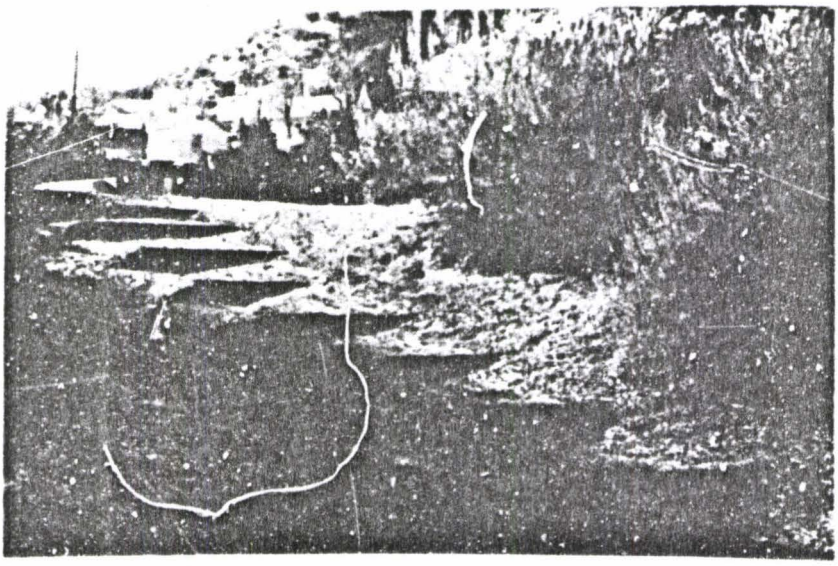


Condition - Landscaping was allowed to die. Replace vegetation according to the original plans and repair the sprinkler system.



Condition - Cabana needs repairs on roof. The boards should be replaced with similar species and grade of lumber.

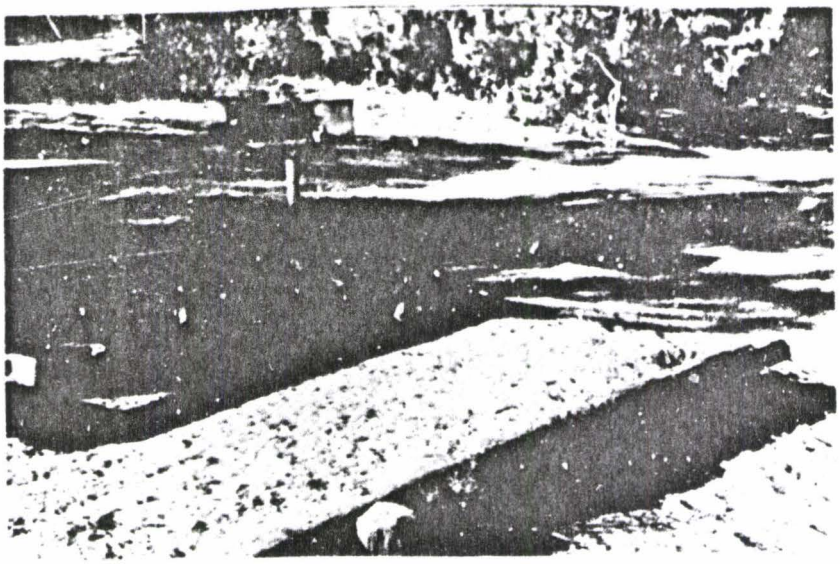
MISCELLANEOUS
CONDITION CLASS IV



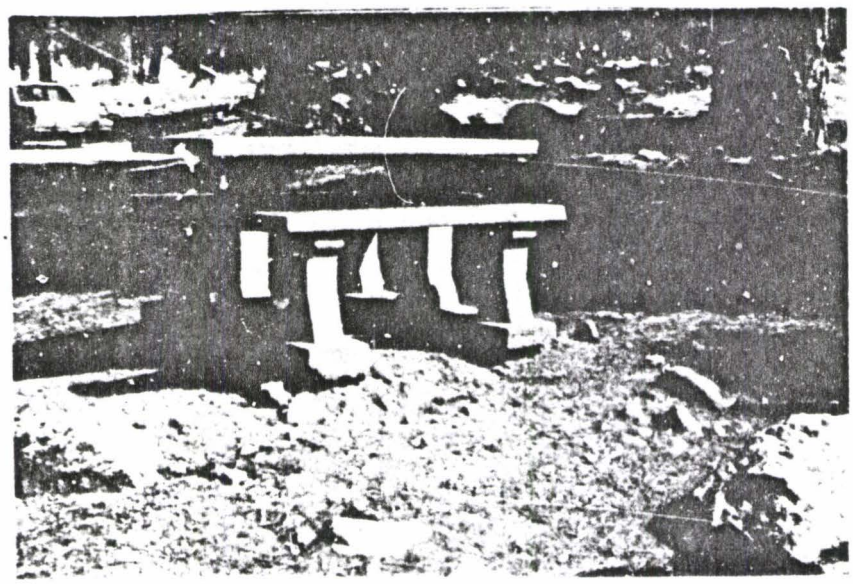
Condition - Stairway requiring major repairs. Replace in kind and control foot traffic to the trail with vegetation.

Condition - Failed rock retaining wall. Replace in kind and reinforce with steel.

MISCELLANEOUS
CONDITION CLASS IV

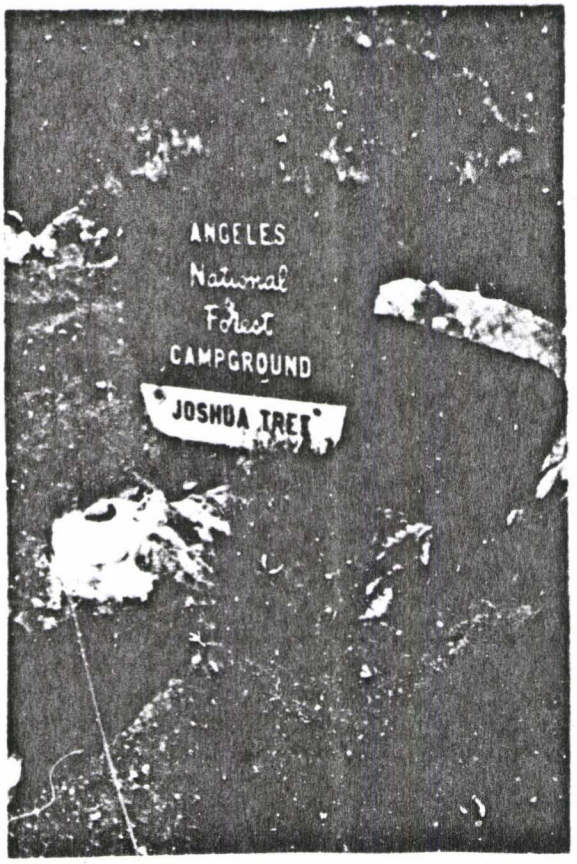


Condition - Table pad in bad repair. Replace edge with masonry and compact native material behind walls.

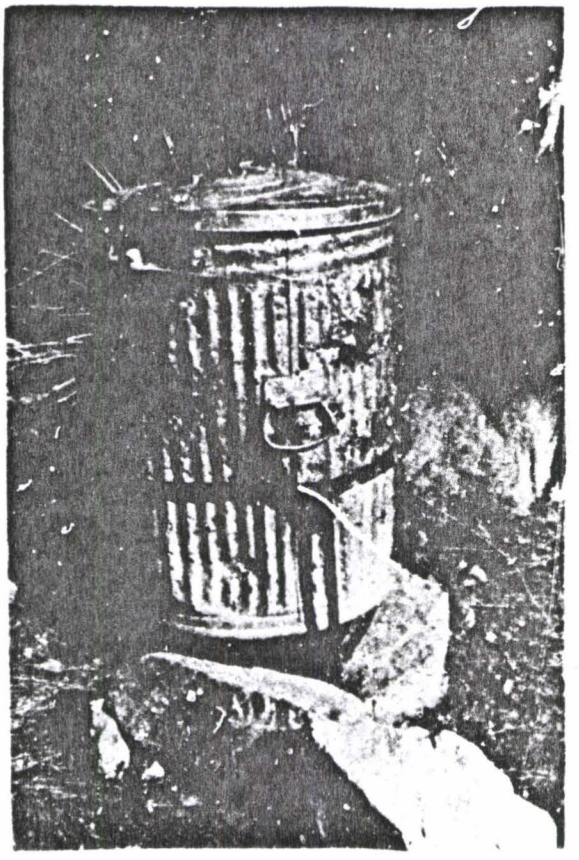


Condition - Rock masonry retaining wall around table pad is gone. Replace with like kind of facility and fill with compacted material around the table.

MISCELLANEOUS
CONDITION CLASS IV

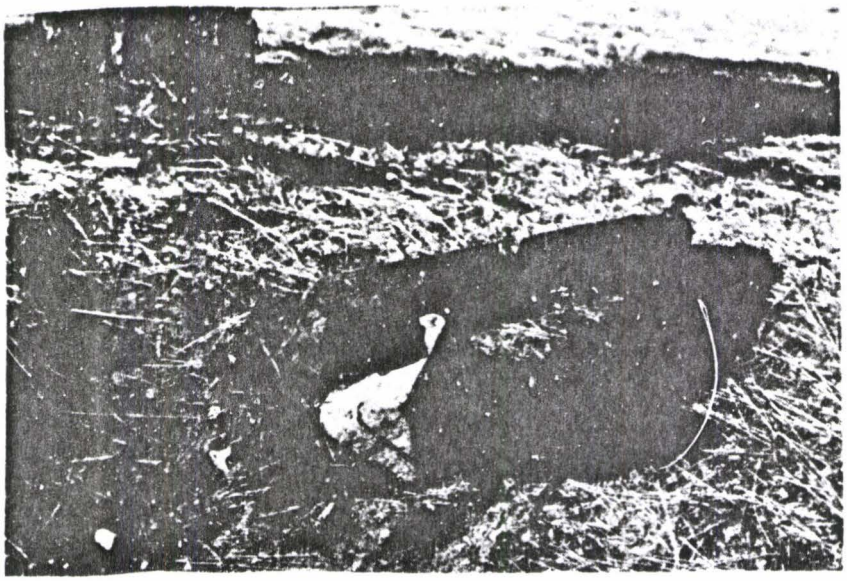



Condition - Sign in poor repair. Replace with more vandal resistant material if necessary.



Condition - Located in a high vandalism area. Replace with subsurface garbage can containers.

MISCELLANEOUS
CONDITION CLASS IV



Condition - Rotten post site marker. Replace with like kind of post.

## V. LITERATURE USED


1. Forest Service Manual - 2330

2. Forest Service Recreation Information Handbook - 122.31

3. Cleaning Recreation Sites - ED&T 9009, Forest Service, U.S. Department of Agriculture, Equipment Development Center, San Dimas, California 91773